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ABSTRACT

Intended to help rehabilitation facility administrators increase organizational income from manufacturing and/or contracted service sources, this document provides a decision-making model for the development of a production consortium. The document consists of five chapters and two appendices. Chapter 1 defines the consortium concept, explains three consortium models (referral, general contractor, and facility contractor), and briefly discusses the objectives of a consortium. The second chapter explains the five stages, each with multiple steps, in the consortium development process. Chapter 3 tells how to create the structure for interaction among consortium members and others, including determining the scope of interaction, creating operating procedures, creating a business image, removing the risk associated with the consortium, determining member capabilities, and using systems analysis to examine the procedures for interaction once they are set up. Chapter 4 addresses how to accomplish the interaction, once its structure has been established. Among the topics discussed are pricing, advertising, product planning, and distribution. Chapter 5 tells how to evaluate the consortium so that members will know whether it is beneficial to their facilities. The appendices include an eight-item bibliography and work sheets intended to help readers make marketing decisions relevant to their particular consortium. (CML)

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INCREASING SALES BY DEVELOPING PRODUCTION CONSORTIUMS

Christopher A. Smith
and
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PREFACE

This publication has been written to help rehabilitation facility administrators increase organizational income from manufacturing and/or contracted service sources. It details a process for developing production consortiums.

Production consortiums are simply agreements (and the processes and procedures agreed upon) for two or more facilities to interact or "cooperate" to produce goods or provide services. Organizations agree to interact for only two reasons: to reduce operating risks and/or to gain fiscal benefits. Through consortiums, the reduction of risk and fiscal gains are often obtained by reducing the duplication of advertising efforts and maximizing the use of scarce expertise. (see chapter one for a complete description of consortiums, consortium history, and consortium models.)

The development of a consortium follows a decision-making flow path. The process, therefore, may be visually represented (see figure one) and described in a step-by-step manner. (see chapter two for a description of the entire process. The rest of the publication details each step.) Your organization may begin the process at any point, depending on your present state of development.

Briefly, the process is:

1. A "trigger" event causes one person to begin to investigate the development of interorganizational interaction. Participants are sought.
2. Preliminary investigations determine the feasibility of interaction.
3. The interacting organizations set goals and objectives for their interaction. Thus, they determine a consortium mission.
4. The organizations inventory their collective strengths, develop interactive processes, and agree upon marketing strategies. Then the interactive processes are begun.
5. The interactions are evaluated and modifications made at regular intervals.

We believe that production consortiums can help member organizations reap fiscal benefits. We also believe that production consortiums should augment, not replace, individual facility production efforts. We also believe that consortiums must be administered to increase the reputation of each facility member within its own community. They should never develop a "competing" image for the facility in its community.

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Increasing Sales By Developing Production Consortiums

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Chapter One

The Consortium Concept

Consortium defined

A consortium is a formalized interaction between organizations designed to reduce operating risks and provide benefits to all interacting organizations.

Member organizations agree to interactions that will help themselves and other consortium organizations reach individually determined goals. Usually, each member organization's goals have common elements that lead to the creation of the consortium. In a sense, the member organizations agree to interact, or "cooperate," to reach these individually developed but commonly sought goals.

The goal of the consortium, however, is not to promote cooperation. In fact, the goals of consortium members are not even related to cooperativeness. Cooperative interaction is only a tool used by the consortium that will lead to the achievement of individual goals. The principal goal that most often leads facilities to pursue consortium agreements is the goal of increased production.

For example, a consortium could be created to allow member organizations to specialize in various aspects of a complex subcontracting operation. The member organizations, thus, cooperate when they participate in joint contracting. However, each member organization's goal for participation in the consortium is to increase production in their area of expertise. Cooperation, thus, helps each facility increase production within their specialty area.

Background

Consortiums were first created by large organizations wishing to limit competition. Today, however, small organizations have the most to gain from a consortium. They need to obtain new production contracts to survive.

Early rehabilitation-related consortiums were conceived as a way for facilities to receive greater exposure for their advertising dollar. In fact, the first consortiums were created using the "cooperative" model to, in effect, get "free" referral support for the flagging operations of the members.

The members of these first consortium models were full of high hopes. However, their efforts were torpedoed by "turf" protection and by managers who saw the consortium as the magic potion that would bring in more work without a corresponding effort. The elimination of "turf" protection problems is discussed in Chapter Two.

Consortium models

Three consortium models have particular use in rehabilitation facility interactions. They are: the Referral Consortium model, the General Contractor Consortium model, and the Facility Contractor Consortium model.

A "cooperative" consortium model that has had limited success in the rehabilitation field is the Referral Consortium Model.

In this model, information about available subcontracts is "referred" or shared with consortium members. Referrals are only made when the facility initially receiving the bid opportunity decides that the contract is beyond the production capabilities of their organization.

After a production manager learns of a contracting opportunity, the production staff first decides if their facility is capable and desirous of entering a bid. If they choose not to bid, the production manager would notify other consortium members of the opportunity at hand. Other consortium members could then individually decide if they should or should not enter a bid for the contract. This consortium model was designed to expand the knowledge base of bidding opportunities.

In theory the "cooperative" consortium should greatly enhance member facility exposure to potential contracts. In practice, however, it only enhances (and in a limited way) the exposure of specialized contracting operations.

Organizations with strong sales forces will discover many more bidding opportunities than those with weak sales forces. They tend to be the multi-million dollar facilities with a great deal of expertise and access to capital. They are more capable of taking advantage of opportunities even if it means re-capitalization or retooling. Thus, these organizations do not contribute many bidding opportunities to the consortium pool.

Organizations with weaker sales forces are less likely to be able to take advantage of non-traditional contracting opportunities. Though they also are less likely to learn of opportunities, they will contribute a larger percentage of their leads to the referral pool than organizations with strong sales forces. These organizations are also less likely to benefit from "shared" opportunities.

The Referral Consortium Model, because of these difficulties, is most likely to benefit the facilities that are least likely to need to participate in a consortium. The large facility's natural inclination to attempt to take advantage of every bidding opportunity, will often lead to the failure of the Referral Consortium.

A second consortium model builds on the "cooperative" structure of the Referral model. The General Contractor Consortium Model also provides member organizations with knowledge of bidding opportunities. However, in this expansion of the Referral model, the consortium members support a centralized office that provides joint bidding and contracting for the member organizations. The centralized control of large contracts allows smaller facilities, shut out of contracts in the Referral model, to participate in some of the contracting opportunities that they identify. The consortium office provides better contract coordination for contracted jobs that are beyond any one member's production capabilities.

For example, member organization "A" makes wooden pallets. Several other organizations that are consortium members also have pallet-making work stations. Further assume organization "A" had a capacity of 100 pallets per week.

One day the sales manager of organization "A" received an order for 1,000 pallets. However, the order specified that all of the pallets must be produced and delivered within four weeks. Organization "A" was not capable of delivering on this contract. Thus,the sales

manager of Organization "A" notified the consortium office of the contracting opportunity.

The consortium manager discussed the details of the contract with the two other pallet-making organizations. One agreed to make 400 pallets at the rate of 100 per week under sub-contract to the consortium. The other agreed to make 200 pallets at the rate of 50 per week under sub-contract to the consortium. Organization "A" was able to deliver 400 pallets at the rate of 100 per week to the consortium as well. Thus, the consortium manager was able to bid the contract for delivery of the 1,000 pallets to the benefit of all three organizations.

Of course the consortium manager now has the responsibility of assuring acceptable quality for the pallets delivered from the three manufacturing sites. The manager, thus, bid the contract at a rate that allowed each sub-contracting organization to make a profit and maintain the consortium office.

The General Contractor Consortium model has two characteristics that may cause problems. First, because the shared contracts must be "supervised" by the consortium office, the expertise demanded from consortium managers may be considerable. Second, if contracts cannot be split into several sub-contracts the same problems of the Referral Consortium model will surface.

A third consortium model that shifts control of joint ventures out of the consortium office has shown a lot of promise. In the Facility Contractor Consortium model, the initiating organization retains control of the contracting opportunity and supervises the quality of the product/service provided.

For example, member organization "A" makes foam-filled pillows in its sewing work stations. Several other organizations that are consortium members also have sewing work stations. Further assume organization "A" has a capacity of 100 pillows per week.

One day the sales manager of organization "A" received an order for 1,000 pillows. However, the order specified that all of the pillows must be produced and delivered within four weeks. Organization "A" was not capable of delivering on this contract. The sales manager of Organization "A" consulted with the consortium office asking for the names of member facilities that could participate in this contract.

The consortium manager discovered that two other member facilities had sewing operations capable of making pillows. The consortium manager made the initial contacts with these facilities and discussed the potential contracts. One agreed to make 400 pillows at the rate of 100 per week under sub-contract to Organization "A." The second facility agreed to make 200 pillows at the rate of 50 per week under sub-contract to Organization "A." Because organization "A" was able to deliver 400 pillows at the rate of 100 per week as well, the contract could be bid. The consortium manager conveyed this information to Organization "A"'s sales manager who placed a bid for delivery of the 1,000 pillows within four weeks. This provided benefits to all three organizations.

Of course Organization "A" now has the responsibility of assuring acceptable quality for the pillows delivered from the other two manufacturing sites as well as their own. The bid, thus, was at a rate that took into account this added responsibility.

The Facility Contractor Consortium model allows each facility to participate in any contract that they uncover. This helps to eliminate problems with "turf" protection. In addition, the consortium office load (and accompanying expense) can be kept to a minimum.

Many other models of interaction exist. The variety and feasibility of consortium models is only limited by the needs and agreeability of the interacting organizations.

This manual provides a framework for developing consortiums that are responsive to the needs of the member organizations. In most cases the framework will result in the development of various types of Facility Contractor Consortiums. However, no single model will meet the needs of all consortium groupings.

Objectives

The objective of a consortium is closely tied to the primary motivational objective of each member facility: to increase production, thus increasing the facility's sales revenues.

Facility managers will not pursue consortiums if they do not perceive the consortium as providing benefits to their facility. Before committing to a consortium, each facility manager must ask: what do we have to gain? In addition, each facility manager is likely to ask: do we have anything to lose?

If things are going well for the facility, jobs are coming in and your program participants working and being trained and everything is going fine, what does the facility have to gain? Perhaps the answer to this question lies in the reduction of risk.

A consortium should not be the only means that an organization uses to obtain bidding opportunities. However, it may be an effective way to enhance bidding options if all members can be assured equal access to contracting opportunities.

Risks are involved in any production-related operation. However, the reduction of needless risks due to exposure to excessive expenditures from duplicated efforts and/or the operation of work stations at less than capacity, may make the effort to create and maintain a consortium worthwhile. The reduction of duplicated efforts refers to many joint marketing/sales options for consortium members.

At the same time that the consortium is reducing the duplication of effort (and increasing the advertising exposure of all member organizations) it will be maximizing the use of existing expertise. Thus, the definition of a consortium could be expanded to read: A consortium is a formalized interaction between organizations to reduce operating risks and provide benefits to all interacting bodies *by reducing the duplication of advertising efforts and maximizing the use of existing expertise.*

Within narrowly defined parameters, the consortium can be viewed as a shared marketing effort formulated to help member facilities reach production-related goals.

Chapter Two

The Consortium Development Process

The process

This manual provides a decision-making model for the development of a production consortium. Because each consortium must be tailored to the member facilities, this development model is process oriented. Thus, the model shows you the steps that need to be taken, the decisions that must be made, and the ramifications of those steps and decisions regardless of the final structure of the consortium. The process is outlined in flow chart format (see figure one on page 6.)

The development process generally encounters five stages, each with multiple steps. The five stages are:

1. A "trigger" event causes one person to investigate the development of inter-organizational interaction. Participants are sought.
2. Preliminary investigations determine the feasibility of interaction.
3. The organizations pursuing interaction set goals and objectives for their interaction. Thus, they determine a consortium mission.
4. The interacting organizations create an operating process. This involves developing an inventory of their collective strengths, developing interactive processes, and agreeing upon marketing strategies. Then the interactive processes are begun.
5. The interactions and resulting impact on member organization sales are evaluated and modifications are made at regular intervals.

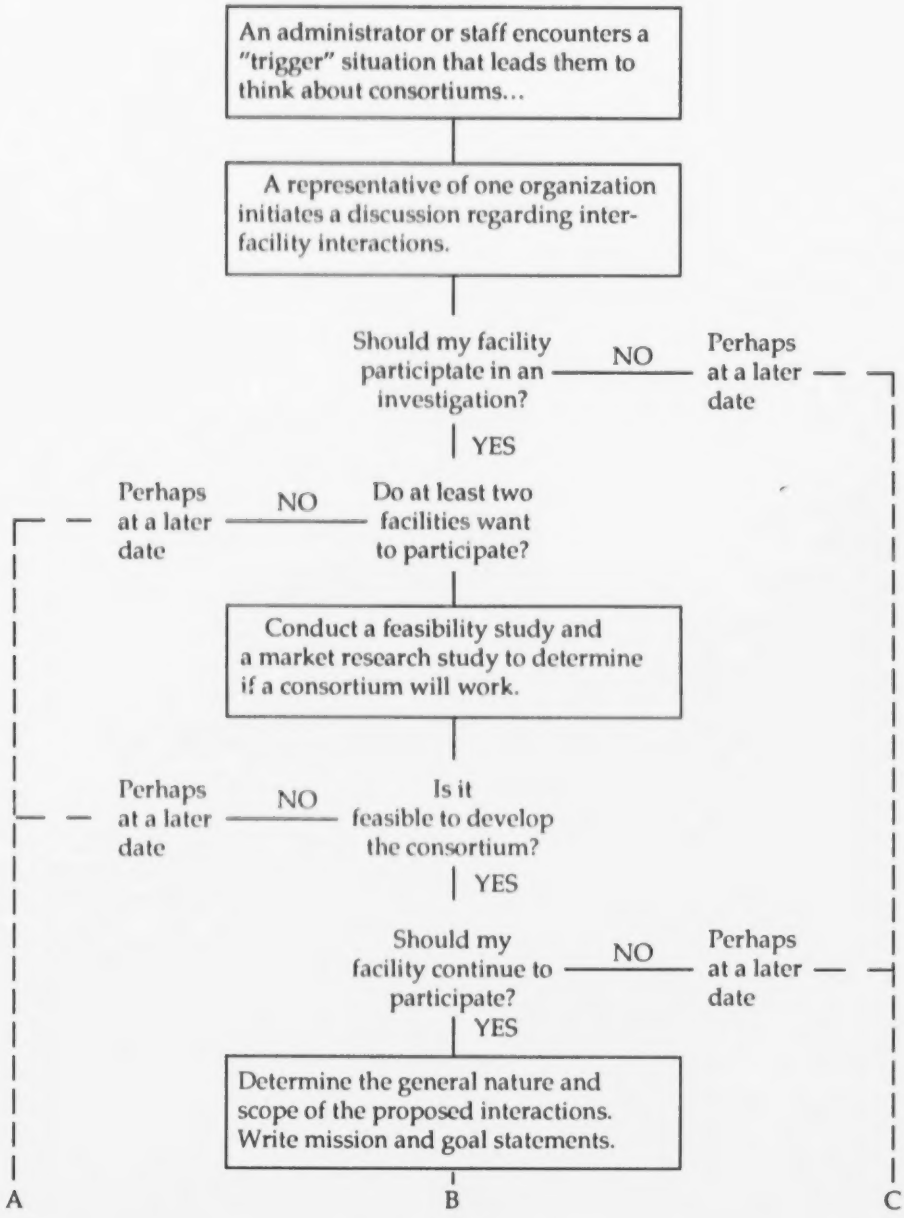
Note that the model starts with a single facility initiator. It takes only one person with a vision to initiate a process that may provide benefits to many facilities and work to many clients. That one person must ask other facility staff to participate in an investigation of consortium development. With luck and drive, that person may solicit assistance for arranging for the initial discussions from other facility representatives who share the vision.

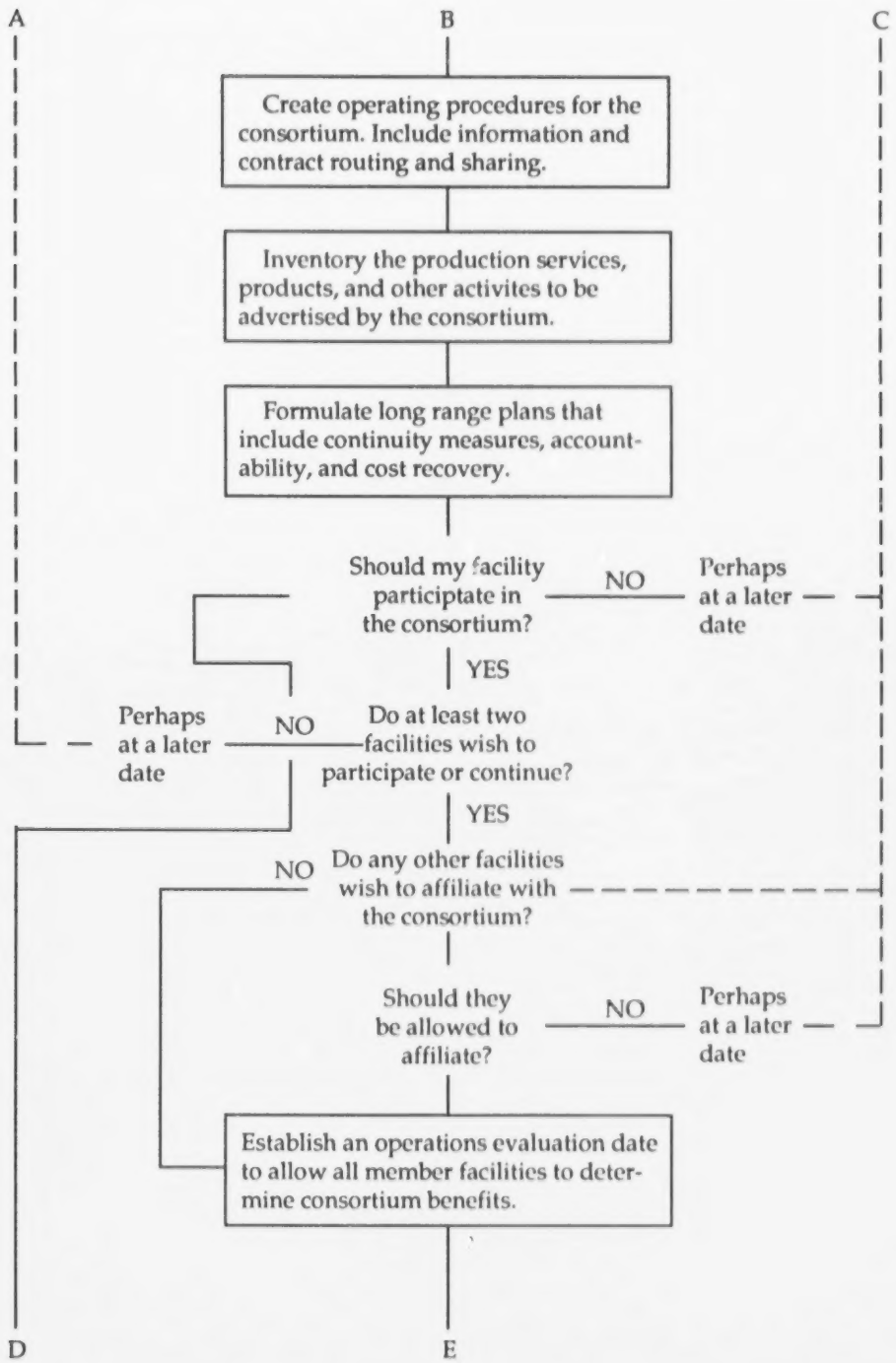
The initial discussions may be followed by a formal feasibility study or preliminary market research. At some point, however, each of the investigating facilities must make a commitment to actually create the consortium. More information about this initial development meeting is found later in this chapter.

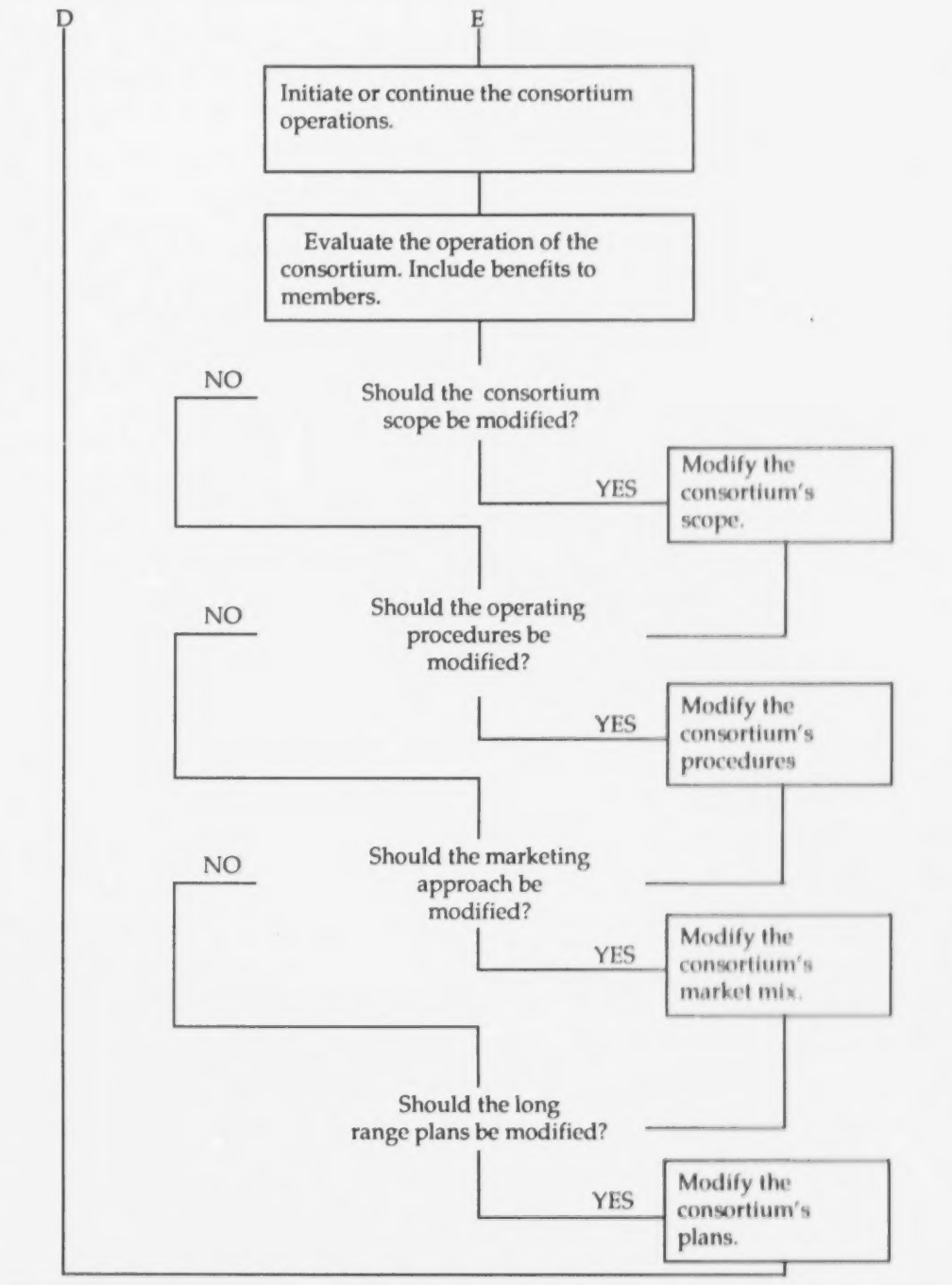
If, after the preliminary investigation, the consortium is found to be feasible for at least two facilities, the creation of the consortium can begin. Chapter Three provides details on the elements of the discussions that will lead to the creation of the consortium. First, the nature and scope of the interactions supported by the consortium are determined. This

Figure One

CONSORTIUM DEVELOPMENT DECISION PATH


An administrator or staff encounters a "trigger" situation that leads them to think about consortiums...
A representative of one organization initiates a discussion regarding inter-facility interactions.
Should my facility participate in an investigation?
NO
Perhaps at a later date
YES
Do at least two facilities want to participate?
NO
Perhaps at a later date
Conduct a feasibility study and a market research study to determine if a consortium will work.
Is it feasible to develop the consortium?
NO
Perhaps at a later date
YES
Should my facility continue to participate?
NO
Perhaps at a later date
YES
Determine the general nature and scope of the proposed interactions. Write mission and goal statements.
A
B
C


A
B
C
Create operating procedures for the consortium. Include information and contract routing and sharing.
Inventory the production services, products, and other activites to be advertised by the consortium.
Formulate long range plans that include continuity measures, accountability, and cost recovery.
Should my facility participtate in the consortium?
NO
Perhaps at a later date
YES
Perhaps at a later date
NO
Do at least two facilities wish to participate or continue?
YES
NO
Do any other facilities wish to affiliate with the consortium?
Should they be allowed to affiliate?
NO
Perhaps at a later date
Establish an operations evaluation date to allow all member facilities to determine consortium benefits.
D
E


D
E
Initiate or continue the consortium operations.
Evaluate the operation of the consortium. Include benefits to members.
NO
Should the consortium scope be modified?
YES
Modify the consortium's scope.
NO
Should the operating procedures be modified?
YES
Modify the consortium's procedures
NO
Should the marketing approach be modified?
YES
Modify the consortium's market mix.
Should the long range plans be modified?
YES
Modify the consortium's plans.

includes making decisions regarding the products/services that will be offered through the consortium and the ways in which member facilities will receive benefits. Second, the operating procedures that detail the referral and bidding processes through the consortium must be put into place. This includes information routing and rules regarding the "sharing" of contracts. Finally, the capabilities of the consortium as described by the products, services, physical space, machinery, and processes of each member facility must be inventoried.

All of these discussions must precede the creation of shared marketing activities and the development of long range plans. These steps are discussed in Chapter Four. In addition, before the consortium begins to operate, the investigating facilities should formally commit themselves to working with the consortium for a minimum amount of time. At this point, other facilities that wish to affiliate with the consortium as it has been created may be allowed to commit to the consortium as well.

Chapter Five describes measures that will help the consortium grow and member facilities prosper. Primarily, this chapter emphasizes the use of regular program evaluation to help the consortium remain responsive to the member facilities. In addition, the formalization of the consortium structure, including the separation of that structure from member facilities, is considered.

The model actually ends with a "feedback loop" extending back to member facility recommitment. In fact, continuous, regularly scheduled program evaluation followed by reassessment of each member's desire to continue the consortium interaction provides the consortium with a mechanism to be responsive to member goals and dissolve when it can no longer remain responsive.

Initiate the process

The first step in the creation of a production consortium is to form a group of interested facility representatives.

At least one facility administrator must decide to pursue the development of a consortium. That person must then gather together representatives from other facilities to discuss consortium development. Without an organizer, a consortium will never develop.

A "trigger" activity or climate will be responsible for prompting an administrator or staff to consider the development of a consortium. Often the trigger is the opportunity to bid for a contract that is not practical for the facility to complete alone.

The Tax Reform Act of 1986 may have provided a ruling that will act as a "trigger" for consortium development. Consult your tax attorney or certified public accountant regarding the establishment of a 501(c)(25) tax-exempt, multi-parent title-holding corporation. IRS Notice 87-18 indicates that it may be possible for up to 35 organizations to pool resources to purchase real estate, earn profits, and distribute those profits to member organizations without paying unrelated business income tax. Qualifying organizations include: government agencies, 501(c)(3)'s, and other 501(c)(25)'s. This ruling may provide the initial basis for creating an interactive consortium structure.

You may be that organizer, or seed person. Your task, thus, is to speak with other facility managers to find a few facilities that may be open to discussions. Then you set a meeting to share ideas on how a consortium might be structured and the benefits that could be gained.

Potential organizers may wish to consult with state-based facility associations to find possible discussion participants. By starting with a state association, the organizer begins with one of the largest potential pools of consortium members. Thus, most potential affiliates could participate in the formation of the consortium.

However, organizers may simply call one or two associates in facilities located in nearby communities. A consortium could be started with as little as two facilities cooperating on joint marketing efforts. A small number of facilities initiating the first consortium activities has the advantage of allowing the organizer to quickly obtain action on the consortium idea.

The key, regardless of the number of facility participants, is to search for possible consortium members that have similar types of needs.

One window of opportunity opens when your facility learns that it can bid on a large contract that would normally be passed. Rather than passing the opportunity, get on the phone and talk to a few other facilities. Nothing promotes action more than opportunity. Consortiums really only make sense when work is available. Thus, the new opportunity can help you forge the initial interactions that lead to the development of a consortium.

The response of too many facilities is to say "no, we can't handle that," or even "we're not going to bid on it because we don't have the resources to do it." If you find your facility in that situation, you have reached the point when a consortium would benefit your facility and other facilities as well. This is the best time and the best circumstance to begin a discussion of consortium development.

Manage the first meeting

After bringing potential consortium members together, the organizer first describes the interactions that are possible. It is good to start the meeting by reviewing points discussed in Chapter One. It is important to at least mention that the consortium is not an exercise in cooperation, that it is a joint venture that will try to enhance each facility's individual ability to engage in production.

Your opening remarks should quickly lead into a discussion of benefits. What do you and the other facility representatives wish to gain?

Naturally, if you expect to gain, you have a stake in making the consortium work. In competitive situations, the reward an organization expects to receive makes the risks acceptable.

The organizational acceptance of risk is predicated (1) on the expectation that the magnitude of the benefit or reward is worth taking a minimal risk, and (2) the expectation that the achievement of the benefit or reward by the organization is highly likely. One mistake many not-for-profit consortium developers make is to try to force organizations to accept risks when they cannot control the activities that minimize the risk.

When an organizational representative accepts risk as the precursor for receiving benefits or rewards, he/she does so based on the known strengths or weaknesses of his/her organization. It is unlikely that the organization will accept risk when it cannot control the activities that lead to minimizing the risk and maximization of the achievement of the benefit or reward. (We are not talking about stock brokers or gamblers.)

Thus, your development meeting should include a discussion of how to provide each member facility with a stake in the consortium without entering into an uncontrolled risk situation. Such a "risk stripped" consortium is possible. It is likely to employ the "Facility Contractor" model consortium structure.

The foregoing discussions will probably consume several hours and the first meeting. One other discussion should be initiated prior to adjourning the meeting. To be certain that the consortium will actually be able to provide the benefits potential members desire, a feasibility study will need to be completed.

Feasibility studies can be short investigations into the prevailing marketing conditions or

lengthy research probes to "test" a marketing concept. In either case, a feasibility study will need coordination and will consume study time. Thus, at the initial meeting, the consortium developer should (1) determine the general nature and scope of the investigation desired and (2) determine the facilities willing to continue (and help fund) in the investigative process.

The points on your first consortium development meeting agenda should include:

- Describe the consortium concept
- Discuss the benefits desired
- Discuss stripping the consortium of risk
- Determine the investigative process
- Determine the participants in the investigation

Conduct a feasibility and/or market research study

The information gathered from a feasibility study may provide data about consortium markets, customers, competitors, macro-environment, products and services, price, distribution, advertising, publicity, and sales promotion. The amount of data collected is determined by the consortium development committee based on its desire to reduce risk and its ability to conduct an extensive study. These data will help the developers determine if there is sufficient "opportunity" for the consortium to provide benefits to member facilities.

Feasibility data are gathered from existing "hard" data sources, by the use of marketing research, and through interviews with individuals. The data may be gathered through the use of four strategies: situational assessment, market measurement, response analysis, and the evaluation of processes.

Situational assessment is an environmental approach that helps developers determine the impact of changes in demographics, economics, politics, or other factors on the potential success of a consortium. In market measurement, the developers attempt to determine the number of customers that a consortium could serve and the customers' needs/desires. Developers using a response analysis strategy concentrate on changing products/services to achieve the most desirable consumer reply. The evaluation of processes considers the way a consortium will provide needed goods or services. In most cases, the consortium is likely to use the market measurement approach to the gathering of feasibility data.

Many sources of "hard" data can be used by the consortium developers conducting a feasibility study. Potential sources include:

- Current Customers
- Trade Publications
- Industry Associations
- Knowledgeable Insiders
- Potential Customers

McCready (1982) presented a strategy formulation process that may be used to conduct a feasibility study for consortium development. Its six steps move from preliminary assumptions through the actual gathering of marketing data. (see figure two below.) Organization is important. The committee must resist the temptation to simply begin gathering data without a format. The analysis and objective formation stages of the process will be much simpler if the data is gathered according to a systematic and organized plan.

The consortium development committee is most likely to use two data gathering methods. They are brainstorming and published sources.

Brainstorming

Using this technique, the investigative committee answers questions in a free exchange of information. Each committee member (or individuals asked to discuss consortium feasibility questions with the committee) draws on personal knowledge about each topic area to provide answers to key feasibility issues. As each person responds to the question, other committee members (participants) build upon the information presented. This provides greater insight into possible answers. Even when other techniques provide basic feasibility data, the brainstorming technique permits the examination of these data by the consortium.

The "experts" that should be invited to participate in these brainstorming sessions should have special knowledge, interest, influence, or other vestment in the areas to be discussed. Although many opinions should be gathered, resist the temptation to use these opinions in a "referendum" manner to determine if the consortium is feasible.

Published Sources

While completing its feasibility study, the committee will encounter areas, such as "Who will be the consortium's customers?" where information may be available from other sources. Some of the sources will provide information without cost. Some possible sources of information about the consortium's environment include:

Intergovernmental agencies
Local Chambers of Commerce
Better Business Bureaus
Business publications
Federal and State statistical deposits
State planning offices
Job Service offices
Census Office

Figure Two

STEPS FOR DEVELOPING AN INFORMATION GATHERING STRATEGY

A. Conduct a Preliminary and Brief Investigation

Quickly determine the data that need to be gathered and who may have the data you need. Sometimes a few telephone calls may be all that is needed. Evaluate the situation before jumping into the major effort.

B. Decide What Information is Needed

Your brief investigation will help you determine the data you need to gather. Establish clearly written statements reflecting these needs. Excessive data confuse an issue; insufficient data frustrate the achievement of accurate results.

C. Evaluate Available Resources

Determine the amount of time, energy, and people that can be made available to gather these data. Insufficient resource allocation is often a cause of study results

with a low degree of reliability.

D. Plan the Data Gathering Process

A wide variety of research techniques including mail surveys, personal interviews, observation, statistical analysis, brainstorming, gathering data, using idea generators, and needs assessment are available for use by the investigation committee.

E. Gather Only Relevant Information

In what way is this particular finding significant to the feasibility of consortium development? To what degree do these data help us understand the consortium's marketing environment?

F. Process All Information According to Some Meaningful and Logical Order.

Apply these data directly to the central question. Be sure that all data are cataloged according to source, date of receipt, reliability, and so on. This step can be taken by mailed questionnaires, personal interviews, or the review of published literature.

In addition, each facility participating in the consortium investigation may already possess much marketing information in its own files.

Should the development process continue?

After the feasibility and/or marketing studies have been completed, each facility must individually determine if the creation of a consortium will provide benefits in the form of increased production opportunities. The consortium structure will only be created if two or more facilities choose to continue the development process.

Chapter Three

Creating The Structure For Interaction

Work is the bread and butter of a production organization. The greater the need for production contracts the greater the interest shown in developing production consortiums by managers.

If a facility is operating at less than full capacity, failing in its marketing efforts, consortiums will be an attractive alternative. If, however, a facility is bustling with activity, the managers may not be interested in affiliating with a consortium. The busy organizations, however, are just the sort of members that the consortium needs to build and maintain momentum for reasons outlined in Chapter One.

In areas such as Northern Minnesota, where most of the rehabilitation facilities face similarly depressed operating environments, consortiums are the most attractive. They are also the most difficult to implement.

How can a consortium attract active facilities into membership? By offering (and delivering) benefits beyond a short term increase in production. These benefits will be derived from the nature and scope of the interactions that will be provided through consortium affiliation.

Determine the scope of interaction

Three important factors limit consortium interactions. They are (1) community-based turf protection, (2) geographical isolation and (3) unique operating "personalities."

The number one factor limiting consortium development is community-based turf protection.

The strength of rehabilitation facilities is the tie to the community that supports them. The board of directors is usually made up of a cross-section of people from the community, 90% of the work done by a facility is work that comes from the community, and 90% of the clients are from the community. Because they are "community" oriented, facilities tend to "protect" the business that is generated by the local industries. Sub-contracts awarded to consortium members outside of the contracting businesses' local area would be contested.

Turf protection is also an element of the second factor, geographic isolation. Essentially a consortium is made up of a group of organizational representatives from facilities that are isolated geographically. Each representative is interested in gaining benefits for his/her facility within its geographic area.

The job of the consortium must be to use this community support and geographic "turf

protection" constructively. If, instead, the consortium is perceived as "stealing" any one facility's community base, it may lose facility support.

Another factor that limits consortium development is the tendency of organizations to create unique ways of operating. Each member facility probably has its own bidding process, segregates overhead expenses in its own unique way, and produces production schedules that are responsive to its own flow patterns. If the consortium forces the member facilities to adopt one complete set of operating guidelines, the consortium building task will be arduous. The resulting consortium will also lack the flexibility that unique facilities could give it.

The unique interactions that facilities develop with their communities could be used by the consortium to provide flexibility for contracting that would be difficult to achieve in any other way. Getting an operating system that allows this flexibility requires that the consortium construct be responsive to the varying policies of the member facilities, rather than the member facilities being responsive to the consortium design.

One facility consultant consolidated the requests of many facilities for a payroll system into a design he hoped that the entire group would use. The system, using micro-computers, was created and marketed to facilities. The network purchasers, in this scheme, would use the core program and, with minor adaptations, have personalized payroll systems.

The project failed. The facilities had their own, completely unique method of recording, tracking, and disbursing payroll. Not only were they unwilling to modify their systems to meet the needs of the group system, they also used different hardware configurations.

This could be a potential problem with consortium bidding schemes. Differing physical needs, overhead, and scheduling dictate that different pricing methods be used. In fact, if the same method was used by all facilities, different bids would still result because operating costs would vary. This alone would force a consortium to retain the unique methods used by member facilities as they design the ways in which the facilities can interact.

What implications do the limiting factors have for the development of production consortiums?

First, a consortium may help member facilities determine their strong product or process centers. This will allow each facility to "specialize" in a product or process line.

One facility may find that it has a particularly strong center for silk screening or sewing or pallet-making or some other product or service, and another facility finds that it is strong in something else. This will allow facilities to "pass" contracts to the facility that can best complete the job.

Rather than just turning something over automatically to a consortium, however, the facility may incorporate a new contracting area into its long range plans. Most facilities, in fact, are willing to do just about any type of job and make any type of investment as long as there is pay-back on it for the investment and an opportunity for their clients. Most shops, after all, are "job" shops and rely on a mixture of many different types of contracts on a quick turnover basis.

Remembering that turf protection may lead many facilities to attempt to "gear up" to do contracts in areas that are not immediately strong, it may be better for the consortium not to ask facilities to "refer" contracts. They could instead use the unique strong points of other facilities to "expand" the capabilities of all facilities.

The expansion of their individual capabilities will be very attractive to most facilities. After all, the only constant in most facility environments is change. A facility that specialized in wood products five years ago may now concentrate its efforts in packaging or

sewing. The facility job shop market is volatile. The consortium must be created to help each member facility negotiate the volatile markets.

Second, if the consortium recognizes that each facility has a responsibility to the people who participate in its programs, a responsibility to its community, and to the tax payers that support it, the consortium can act to preserve that community identity.

The role of the consortium is to help member facilities provide the most cost effective service and best quality service that they can. This is best assured by maximizing each facility's production capability. The better a member facility's production is the more likely it is that the facility will be using community resources efficiently. To be better, the production facilities must be diverse and operating at near capacity.

Many states have a state "use" law. Usually this law gives rehabilitation facilities preferential treatment on contracts made for state agencies. Several schemes are usually at work.

Some states "set aside" contracts that can only be fulfilled by capable rehabilitation facilities. Others give facilities or facility groups a preference percentage.

For example, a state may mandate that 10% of all state contracted janitorial services must be purchased from not-for-profit janitorial crews, even if their bids are not the lowest received. (In these cases, the actual percentage purchased can exceed the minimum if the not-for-profit bids are lower than others received.)

Another scheme used in Ohio creates a state use office that awards classifications of goods and services earmarked for not-for-profit organizations. The office, which is affiliated with the state's association of rehabilitation facilities, manages the contracts with facilities and receives a percentage (varying from 2% in Wisconsin to 10% in Ohio) of the total contract dollars as a management fee.

The Ohio State Use Office concentrated mainly on janitorial services. This office contracts close to two million dollars a year in janitorial services with the state. In Minnesota, all the pens and rubber stamps used by the state were bought from facility-based manufacturers.

Create operating procedures

Because consortiums are groups of facilities that usually cover large geographic areas and diverse operating capabilities, the member facilities can reduce the risk involved in the specialization of products or services. This is accomplished by the way in which the consortium is structured.

The consortium must not place member facilities in a position that forces them to assume operating risks for other facilities. No board would place itself in a position to assume risk for operations that it could not control. Thus, the consortium attributed reduction of risk is only oriented toward the long-term outlook for each facility's own operations.

Because the strength of rehabilitation facilities lies in their community ties, the best way to reduce operating risk is to broaden the facility's community base. Therefore, the structure of the consortium must place control of contract activities in the hands of the geographically concentric (or initiating) member facility.

Within this consortium structure, the actual contract for products/services would reside with the initiating (or community tied) facility. The activities performed under the contract, however, may be performed at another, or many other facilities. The initiating consortium member, in effect, acts like a general contractor.

In a very large consortium organization, the "networking" of services may be performed by consortium staff hired to perform the "general contracting" functions. Initially, however, facility staff would be responsible for arranging the details of a contract.

The advantage of this model is obvious. It preserves the tie of a facility with its community. This short circuits any problems that may arise out of turf protection. Additionally, it allows each consortium member to benefit from the expertise and operating capabilities of other member facilities.

The consortium's business image

When the structure is developed, one important area that should be considered is consortium image. How will the consortium be presented to industry? What kind of image will the member facilities want to have with industry?

At least two favorable images should be considered. They are: capable business service provider or capable human service provider.

Other community businesses will develop an image of your organization and the consortium it represents. This image will be drawn from what your facility tells them and from their own interactions with you and other business associates. Do you wish to have your facility image stand primarily on your facility's manufacturing or service capabilities? Or do you wish your facility image to be based on your facility's provision of human services to the community?

Certainly the best climate would be built on the positive aspects of both images. However, negative aspects of each image "carry over," cancelling some of the positive aspects of the other image. Therefore, the facility and consortium should settle on one image that they wish to represent to industry.

Taking away the risk

First recognize that no organization can eliminate risk and still provide benefits or rewards. However, a consortium may provide benefits or rewards to member facilities and place the risk where it can be controlled; the risk is on the shoulders of each member for each member's own benefits or rewards.

Each consortium member treats the consortium as a separate structure. Some organizations may consider the consortium as an "extended" program. Thus, services provided by the consortium through its members, operate peripherally to each member's production structure. This disengages the facility from traditional consortium risk environments. Even if your consortium will have only two members (and certainly if it has ten or 100), it is important for the consortium to have a separate structure isolated from any facility, organization, or association.

The separate consortium organization should have a separate board. This board should not have facility directors as members. The directors or member facilities should work with the consortium board only in an advisory capacity. This further disengages member facilities from the uncontrolled risk environment.

The consortium board, like most facility boards, should be made up of a cross-section of people who have the same type of experience, expertise and so on, necessary to run a production marketing organization. However, the board should be governed by a carefully drafted set of rules that "spell out" the operation of the consortium and the roles of the member facilities.

This separate board structure is important. It allows the consortium to act independently. It guards both the consortium and the member facilities from the "inbreeding" that results when the service provider is also the consumer.

For example, all production operations exist on the basis of their quality. If they cannot get jobs completed satisfactorily, they fail. Because the consortium will, in effect, be acting as a broker for individual facilities, if one facility fails to deliver good quality but is also part of the governing structure, all the member facilities will suffer.

The consortium as an information purveyor

The consortium exists as an information purveyor. As such, the consortium must have firmly defined processes for providing its services to the member facilities.

The marketing of facility services is accomplished by interaction with member facilities. For example, to advertise consortium related services in the Fergus Falls, MN area, the consortium would rely on the Fergus Falls based facility. Services provided by all consortium members are advertised through the Fergus Falls facility. That facility puts its name and reputation on the advertising, just as if the consortium was a "department" of the facility. Any contracts that are obtained for the consortium through the Fergus Falls facility would be contracted through the Fergus Falls facility.

Procedures to allow this to happen take the form of a web. Each consortium member becomes a contracting "agent" for the consortium, and, in essence, for all other consortium members. This requires that strict processes be followed. The processes will help assure that quality work is performed and that the offering of contracts that many facilities are capable of completing is done fairly throughout the network.

The finished product, no matter who does the work, comes out of the contracting process as work of the contracting body. For example, Hilltop Packaging Industries in Austin, TX contracts with a business in Austin for a packaging job. This is a job that cannot be completed at Hilltop Packaging but can be completed at Handishop in Dallas. Hilltop Packaging sub-contracts with Handishop to complete the job and may deliver the finished products to the Austin business.

In essence each facility becomes an agent of the consortium. The agent may charge a fee for overseeing the contract and assuring that the contract is fulfilled satisfactorily. Of course, the process need not be as closely tied to the contracting shop. The process may simply be one of referral.

As an agent, the member facilities must be bound by a specific set of rules. For example, rules should be established to deal with issues of pricing, timeliness, quality, joint venture, contracting, delivery, etc. These rules can only be set through consensus by member organizations.

These are guiding rules for the consortium. They allow the consortium to police itself or to police the facility members to make sure that everyone receives the benefits that they seek.

The consortium opens a lot of production doors for member facilities. For example, a customer enters a facility for the first time and extends a bidding opportunity that can only be completed by the facility through the use of consortium members. This provides a big opportunity for the contracting facility to begin a long term relationship with another business in its community.

If any other facility that works on this contract does poor quality work, doesn't get the work done on time, or creates some other major problem, it will probably do more damage to the contracting facility than if the opportunity had never been offered. This is due to the snowballing effect that bad business practices have on community relations. Rules that help reduce the risk of such a disaster must be put into place.

Grievance procedures should also be established. Because all of the member facilities will be interpreting consortium policies, misunderstandings are inevitable. By maintaining a grievance or complaint process, the consortium can help members work out their differences. Thus, the grievance procedure may also provide a continuity structure.

These procedures are hammered out by the joint group, the facility representatives. Even when the consortium has been transformed into a separate entity, each facility should have a representative on a "member facility council."

The consortium will probably hire staff after it has proven its worth. In essence they would be the people who institute the policies passed by the board and refer disputes to the member council for action.

The initial structure will be created from the starting "seed." If, for example, you found a common ground within a opportunistic contract, the consortium could be structured to allow that common contract to be served. From there, the consortium could grow.

If, however, the consortium is created on the basis of common concept alone, the framework would need to be more formal. The formal framework would simply be a set of interactive procedures that outline how the consortium would work when contracts that are appropriate become available.

After the initial investigation, the resulting member facilities should structure rules that outline the interactive use of each facility's capabilities. Thus, the capabilities of each facility must be inventoried.

Next, the marketing of these capabilities must be developed to allow each facility to become an agent for the consortium. This is the power behind the creation of the consortium.

To get to this point, each facility will need to commit start-up costs in either time or money. It may be possible to obtain grant funds to assist in the development of the consortium capabilities and begin the marketing efforts.

The facilities that are starting the consortium have, at this point, control of it. At some point, however, the consortium should become independent of the facilities. The organizing committee should consider this and build the transition into their regular evaluation cycle.

The independent consortium must be capable of providing a payback to the member facilities. In addition, the independent consortium must have a way of receiving sufficient revenues to continue operation.

One possible decision point may be the point when enough work is flowing through the consortium process to provide a small percentage sufficient to operate the office. Of course, if member facilities were willing to pay fees to provide support, the consortium may become independent much earlier, even at inception.

One of the easiest ways to start (but not the most lucrative way) is to market prime manufactured products. Many facilities are weak in the development and marketing of prime products. Their bread and butter comes from sub-contracts. However, nearly every facility manager dreams of establishing a market for a prime product that will take care of production needs forever and ever.

We all think that this will never really happen. However, the consortium marketing plans can help make these dreams into a reality.

If several member facilities have prime products, perhaps the consortium could develop a catalog and carve out a market for the products. Certainly, the joint marketing proposed as an integral part of the consortium concept provides a greater opportunity for prime product sales.

In fact, if such a prime product did "hit big," the other consortium members might be able to take up some of the production increases that an increased demand would require. In any case, the member facility that "sells" the prime product of another facility would share in the profit.

Another area in which the consortium might provide benefits is shared purchasing for some products. Not only should member facilities purchase the manufactured prime goods from other facilities when those goods are needed, but the consortium could purchase bulk loads of goods such as lumber or janitorial supplies, or machinery. This could conceivably reduce the per unit cost of these items for all facilities.

Inventory capabilities

Because the consortium will exist as the interaction of facilities with various operating capabilities, the consortium organizers must determine the production capabilities of its member facilities. In order to participate in any joint marketing efforts the consortium must know what products and services are available, the volume capabilities, and possible methods of interactions.

A tested method of providing this inventory is development of a capabilities "listing." These listings are complicated to compile. However, after the initial fact finding, maintenance and distribution of the listing will not be difficult.

The key factors in such a capabilities "listing" deal with facility space allocations. Production space and warehousing space are important physical attributes of each facility's operation.

In addition, the size of the facility's labor force, the type of manufacturing or service equipment that the facility possesses, access to transportation, and the products and services that they presently provide are all important "space" related characteristics.

The listing should also analyze the facility's ability to generate sales. Data such as present volume, sales staff, and advertising vehicles are needed when the consortium begins its marketing activities.

Much of this information can be obtained through the use of a self-survey. The data gathered should be compiled using a standard format and made available to all consortium members. (see figure three for a sample listing.)

After all the data have been obtained, if the consortium has access to computer equipment, it can be loaded into a data base management program. Many programs exist. The use of a computerized data management system will make information transfer and data updating tremendously easier. In addition, many computerized programs can provide reports that will assist in the evaluation of the consorium's benefit provision later in the process.

When you are compiling the inventory of facility capabilities, avoid the tendency to only list "jobs." For example, rather than only stating that a facility is capable of manufacturing "PillowPedic" pillows, state that the facility is capable of providing soft sewing products, including pillows. Thus, facility capabilities will include a listing of services such as: woodworking, packaging, and auto-bagging.

Each general manufacturing term will also have sub-terms that a facility may or may not be capable of providing. The listing should include relevant sub-terms as well. For example, within the packaging industry there are hand packaging, machine packaging, blister pack, shrink wrapping, decking, and many more types of packaging. A facility that does packag-

Figure 3
A sample capabilities listing

FACILITY: Carver County Affirmative Industries

PRIMARY CONTACTS: Jeffery Standerfer, Executive Director
Neil Candee, Marketing Manager

FACILITY SIZE:	*Avail Sq Ft*	*Usage*
	30,000	Industrial processes
	8,500	Warehouse storage
	1,500	Retail sales

EQUIPMENT:

- 250 ft of portable conveyor
- 2 industrial Kerby kilns
- 3 hand trucks
- 1 ton delivery truck
- pressurized air system
- 2 electric fork trucks
- 2 industrial drill presses
- 1 shrink wrap tunnel
- 1 vacuum wrapper
- 1 screen printing machine
- 10 air nailers
- 1 industrial table saw
- 1 industrial radial arm saw
- 1 postage meter
- 1 offset printing press
- 1 collator
- 10 Juki sewing machines
- 1 label gluing machine
- 1 carton taping machine

PRIME MANUFACTURED PRODUCTS:

Miscellaneous ceramic products
Custom designed signs
Sleepo brand camping pillows

PRODUCTION CAPABILITIES:

Assembly
Hand assembly
Electrical wiring

Ceramics
Mold making
High and low heat firings
Industrial glazing

Mail operations
Zip coding
Collating
Order fulfillment
Hand insertion
Label printing
Label application

Miscellaneous
Building maintenance
Metals salvage
Snow removal

Packaging
Shrink wrapping
Blister packing
Skin packaging
Heat seal
Labeling
Hand sort and pack

Sewing
Apparel and light sewing
Vinyl
Leather
Bag stitching
Fabric repair

ing may be capable of many of these or only a few.

The capabilities listing may also include different types of assembly options. For example, the different types of packaging assembly options can be listed as different types of facility capabilities. This listing could include the different sub-types of the main packaging options and a listing of different types of assembly.

This orientation should also be carried into the listing of manufacturing or service equipment. By listing the types of sewing machines, punch presses, heat sealers, air nailers, etc. that the facility possesses, manufacturing capabilities can be inferred.

Space characteristics also provide inference. For example, packaging contracts require a great deal of warehousing space. If the facility has under-used warehousing capabilities, it may allow another facility with packaging equipment but limited warehouse space to accept a large packaging contract.

All of this capability data will feed into the consortium's bidding process. For example, if a business contacted your facility asking for a bid on electrical assembly, you would ask for the specifications of the job including assembly, equipment, and space demands. Armed with this information, you could consult with consortium data bases to determine which member facilities could possibly provide part (or all) of the contracting activities.

Let us assume that your facility has decided to sub-contract the entire job to another facility. Three other facilities are capable of completing the job. Your next question is proximity. Certainly you will want to decrease the shipping costs that will be incurred. Thus, you contact the facility that is closest to the final product designation first.

If, however, two or more of the facilities still are equally capable of completing the contract, you may contact both. One may be eliminated by conflicting production schedules. If both are still interested, you may have to devise a method of determining which facility will receive the sub-contract. The only requirement is that the method be perceived as fair by all member facilities.

One part of the "fairness" issue could take into account the facility's "need" for production work. This option should be carefully drafted, however. The consortium does not want to get into a position of rewarding a facility for not doing a good job in sales and marketing.

Examine the procedures using systems analysis

A system is an interactive relationship that exists between units, with the activity of one unit affecting the behavior of all other units. The use of systems analysis to determine present training processes is an attempt to describe the training activities relative to the flow of a client through the activities.

System processes

Systems analysts look for the presence and dynamics of many processes that may, or may not, be operating within your consortium. Three dynamics that are important to the description of the consortium activities are: routing, trajectory, and valves.

Routing

In a systems context, routing refers to the establishment of review points. When a review point is reached, the consortium procedures dictate which one of several routes the production data will take. Review points, routes, and routing rules may be in the form of documented policies or based on experiential judgments.

Routing decisions tend to develop consistent patterns over time. An examination of routing decisions made while administering a consortium may show that consistent decisions are made based on the types of production contracts each member facility receives. Thus, the consortium procedures should be altered to adhere to these common routes.

Trajectory

The trajectory of a consortium is the apparent direction of movement for the consortium's information units. Simply stated, the trajectory is the "flow" of the production contract data. After a consortium contract is initiated, the data flow is "put in motion" within the system. The data are likely to stay in motion, in the direction projected, unless an effort is made to change the direction.

The perceived trajectory as observed by persons that interact with the consortium (the general public, potential customers, potential clients, and potential referral sources) should always be considered when using systems analysis. This "image" of the consortium and member facilities must be considered whenever system procedures are changed.

Valves

A valve controls unit flow through a system. In consortiums, valves regulate the movement of information. They may be located anywhere within the facility/consortium structure.

Some valves restrict the number of production contracts that can be accepted. An intake valve might restrict the number of wood product contracts accepted because only two rip saws may be operated at one time. Policy statements as well as capacity realities could also restrict capacity by simply stating how many contracts will be let at any one time.

Visual representations of systems

Systems analysis involves the definition, depiction, and examination of the relationships between units. Thus, the description of a consortium using systems analysis will involve the identification of contractual bidding elements, the diagramming of the informational flow, and the manipulation of the flow using models.

Systems analysis data is represented visually. The representational method used is determined by the data available, the resources to be expended, and the results desired.

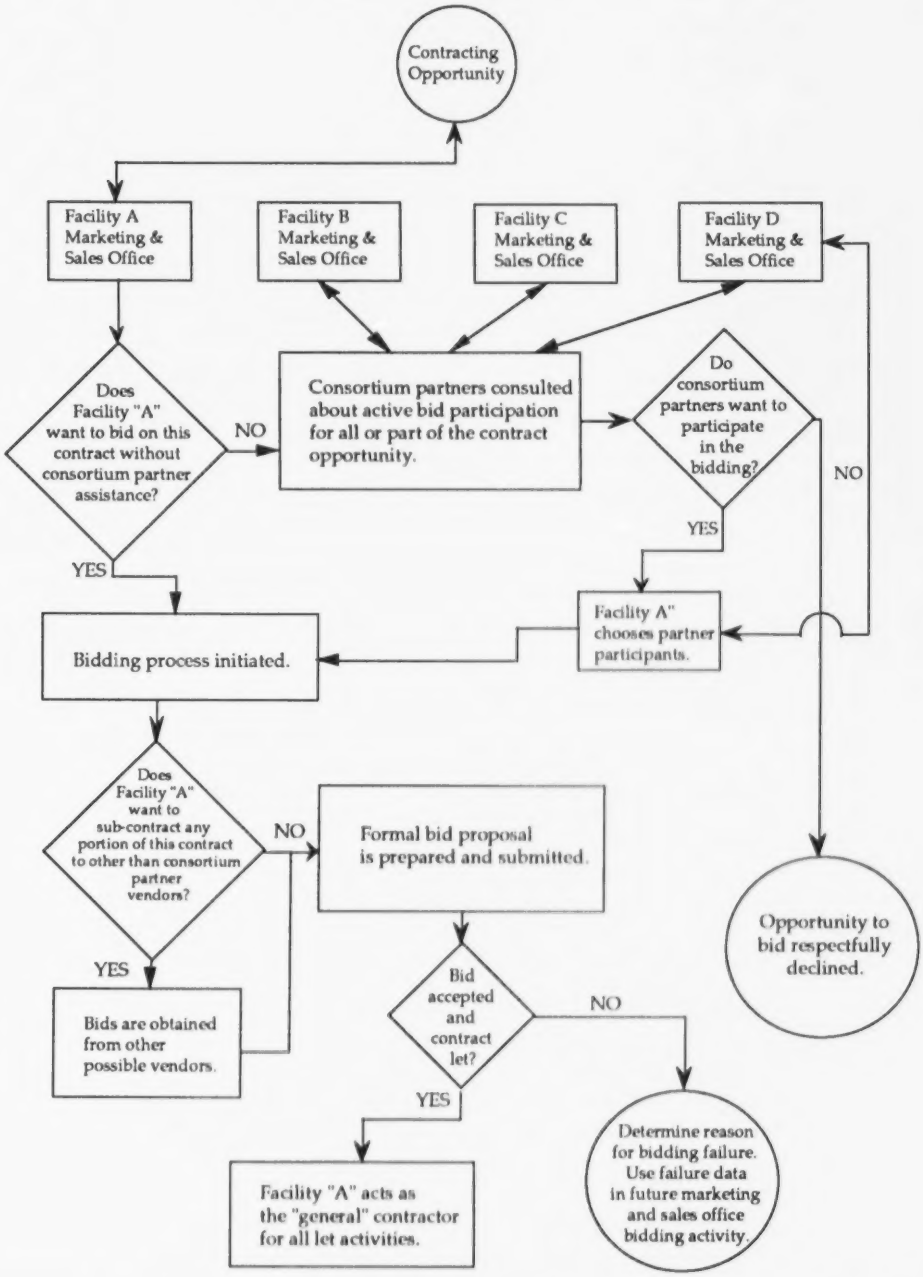
Because contractual flow is a sequence of information provision, consortium flow is best described by "boxing" contract decision elements and drawing "arrows" to show the informational trajectory. (see figure four.)

Two types of visual representations can be used to depict consortium systems. They are activity charts and layout charts.

An activity chart depicts the flow of information through processing centers. In fact, activity charts are sometimes called process charts. Each major part of the chart indicates an idea or task that is presented in the training program. Activity charts can be used to compare different training programs when similar symbols are used to denote activities at each program unit.

Layout charts illustrate the actual physical locations of the contract elements and the movement of materials and information within the area. They differ from activity charts only in the fact that they represent actual physical locations rather than abstract "unit" concepts. Actually, layout charts also incorporate elements of the activity chart because

Figure 4
Shallow Canyon Facilities Consortium


Contracting Opportunity
Facility A Marketing & Sales Office
Facility B Marketing & Sales Office
Facility C Marketing & Sales Office
Facility D Marketing & Sales Office
Does Facility "A" want to bid on this contract without consortium partner assistance?
NO
Consortium partners consulted about active bid participation for all or part of the contract opportunity.
Do consortium partners want to participate in the bidding?
NO
YES
YES
Facility A" chooses partner participants.
Bidding process initiated.
Does Facility "A" want to sub-contract any portion of this contract to other than consortium partner vendors?
NO
Formal bid proposal is prepared and submitted.
Opportunity to bid respectfully declined.
YES
Bids are obtained from other possible vendors.
Bid accepted and contract let?
NO
YES
Determine reason for bidding failure. Use failure data in future marketing and sales office bidding activity.
Facility "A" acts as the "general" contractor for all let activities.

system flow is illustrated.

Flow Analysis

Flow analysis is a relatively simple process that allows managers to create and examine system models.

After creating a visual depiction of the consortium, the model may be altered to see how different elements will interact. This will allow managers to "see" the sequence of consortium contracting activities.

Chapter 4

Establishing The Interaction

Now the consortium development committee must create a strategy for advertising consortium products and services. By structuring the consortium using the "Facility Contractor" model, the consortium will actually be working with facility members to advertise all consortium capabilities to local business and industry. It is in the development of this marketing strategy that the consortium will live.

The most essential element of the consortium's marketing plan is to keep in mind the existence of the consortium as a "department" of each member facility. Thus, the advertising for the consortium must be "built-in" to each facility's marketing efforts. The consortium's role, thus, will probably be limited to consultation on each facility's marketing plan. However, it is possible that the consortium would contribute advertising materials and general capability brochures to all members.

This approach eliminates the danger of pitting the consortium against member facilities. If, in fact, the consortium develops its own advertising package and enters the production market in local communities, the consortium would actually become a competitor of local facilities. The role of the consortium is to provide the information to be included in a facility's advertising mixture and to act as a consulting body to help each member facility strengthen its marketing activities.

Consortium staff should go to each member facility and help the staff create the consortium advertising. It will be presented to the facility's community using each member facility's name and logo. Thus, the consortium is an expansion of existing capabilities. It builds on the existing relationship that the facility has with the community and strengthens that community bond.

In this manner, the facility has a very real stake in the continued operation of the consortium. After all, it is working as an integral part of the community services that are being offered.

Of course, the consortium must trust the facility to adequately promote services. On the other hand, the facility must trust the consortium to deliver on production promises. The facility has placed its reputation in front of the community.

This gives each member facility control of risk. Because the facility advertises consortium related services under its own name, it must also control the delivery of products and services. This is accomplished through sub-contract agreements. It is essential that control of contracts remain with the originating facility. It is the key to the smooth operation of the consortium.

Community advertising using established facilities helps build the image of both the facility and the consortium. It also helps to combat potential turf problems.

Create marketing strategies

Thomas (1979) commented that "If you want to (change) something you are first obliged to understand, in detail, the whole system." Any change in a system as complex as a production consortium will most certainly affect member facilities in unforeseen ways. Just as a physician will certainly check a patient's whole "system" before beginning a corrective course of action, the consortium must audit the state of potential member facilities before helping them develop a marketing strategy.

Conduct a marketing audit

The marketing "audit" will help the consortium development committee visualize the consortium as it will appear to potential customers. It should include an examination of the consortium's mission, activities, structure, and environment.

Mission statement

To begin the examination of the consortium's marketing capabilities, the consortium development committee should examine its mission statement. The mission should be grounded in need and must lead to the satisfaction of needs. If a consortium is committed to meeting mission needs, all consortium activities will be designed to help carry out the mission. Consortium mission statements can be used as a tool for comparing the present activity in all facility production environments with the activities that may be provided by the consortium.

Consortium activities

After examining objectives, the committee needs to examine consortium activities. Will (do) they help the consortium meet the stated goals of the facility members? Do strategies exist? What are they? Are the resources allocated to best achieve the results desired? Could other strategies exist? How could resources be allocated differently?

The consortium should be aware of state-of-the-art service delivery. This state-of-the-art is compared with present service delivery. Comparisons can then be made about the apparent gaps or deficits between what could occur and what actually will or is occurring. Thus, the consortium development committee may complete a needs assessment to provide program related data.

Traditional needs assessment begins with statements of competency not of state-of-the-art. Marketing needs assessment provides more information about the facility potentials. Needs assessment for specific marketing objectives may be completed in depth, later in the marketing process. At this point, the consortium development committee addresses needs assessment without gathering a great deal of data and without the completion of a formal needs assessment. The committee may discover that gaps or deficits exist in basic levels that could effect service delivery and the ability of the consortium or individual member facilities to compete.

Consortium structure

Consortiums operate within a structure. Sometimes the structure inhibits the completion of objectives leading to turf protection problems and consortium failure. The structure should have been developed at this point to provide the optimum support and completion of the mission of the consortium. However, one last look at the structure from the marketing perspective could be helpful.

The marketing environment

The consortium development committee uses the basic information about the consortium's mission, activities, and structure to audit the consortium's marketing environment. The audit will now turn to the consortium's markets, customers, competitors, and macro-environment.

Markets

A market is any group of people or organizations that may exchange resources with the consortium. All present resource exchanges should be listed and potential markets should be noted.

Because markets are large groupings of people or organizations, further refinement by breaking large groupings into their component parts may be necessary. This is called market segmentation.

These segments should be quantified. How large is the market segment in terms of numbers, dollars it spends, referrals it generates? What are the characteristics of the market? If detailed information about potential and existing market segments is gathered, the consortium marketing strategy can be developed with more assurance of success.

Market potentials are calculations of a market's ability to provide contract referrals or absorb product/service deliveries. These potentials are estimates of the service units that the market area can be expected to absorb or provide. Consortium potentials must be compared to total potentials of the market. This refers to the reasonable expectation that the consortium services will compete with other providers for sales in the same market segment. This is sometimes referred to as a market share.

There are two approaches to estimating market potentials, the buying approach and the possible use approach.

The buying approach attempts to quantify the market in terms of units and dollars of past purchases, the seasonal requirements for products/services, the way that purchases are made, etc. This approach requires that the consortium development committee gather existing data on how the market consumers have behaved in the past.

The possible use approach attempts to measure the market buying behavior for future services if potential customers change to purchase new consortium services. In this approach, the consortium development committee must poll to determine the strength of the market.

A needs assessment may provide enough information to make predictions in the possible use approach. However, the accumulation of information under the buying approach will be the soundest. The committee should calculate if contract referrals are likely to continue, the rate that they may continue, and the dollar volume that can be expected, based on documentable sources of statistics on the industries to be served.

Customers

Once the consortium development committee has identified existing and potential markets and quantified them, the more discrete questions of relationships can be explored.

Consortiums must know their supporters. Knowing supporters means analyzing the reasons that supporters either buy or donate. Consumer behaviors have components of pragmatic, psychological and social natures.

It is also valuable for the consortium development committee to learn the present consumer attitude toward the consortium and its member facilities. If the committee can determine how these opinions were formed, brainstorming may help understand what actions the customers are likely to take given their present state of opinion. How do the customers make their purchasing decisions? How can they be influenced to continue to purchase consortium offered services or how can they be influenced to make their purchasing decisions in favor of the consortium?

The determination of consumer interaction with the consortium effects decisions about the services that are provided, the manner in which they are provided, the way that they are packaged or processed, and the price that is demanded for their provision. The consortium development committee attempts to gather information to aim consortium efforts at meeting the needs of those customers predisposed to purchasing goods and services. The committee must also learn how consumers discriminate between service providers.

The consumer marketing information will help the consortium development committee take into account the desires of the consumer. This will hopefully lead to the creation of an image that allows the consumer to view the consortium as a reliable deliverer of services. Consumers need to feel confident about the consortium's ability to provide needed services, comfortable in their transactions with the consortium, and certain that they are receiving fair value for their resources.

If the consortium development committee views the consortium as inherently desirable, what customers perceive as desirable may be overlooked. If the committee members have the notion that the consumer is ignorant they may overlook other reasons that people do not do what is good for themselves. Sometimes the committee members must conduct market research, even if they think they already know what problem exists. The problem may be perceived differently by the consumer.

Consumer analysis relies upon gathering as much information as possible about the potential purchasers of consortium service, their wants and needs. Information can be gathered from already published sources. Culley (1974) published an annotated bibliography that offers references to major data sources. Many other sources of consumer information exist. Source books like Culley's list reference material in specific industry categories. For instance, if preliminary data indicate that some consortium operations could be carried out by direct mail, Culley's publication references eight other publications that deal specifically with direct mail marketing information.

Gathering consumer information also includes determining psychological and social motivations for consuming publics to be interested in exchanging resources with the consortium.

Competitors

Narrowly defined market areas may limit consortium exposure to competition, but will also narrow the ability of the consortium to capture funds. Few facility members will

actually provide products or services in a monopolistic environment.

To examine the questions about the consortium's competitors, the consortium development committee must re-examine the identified markets and market segments. Many possible competitors will surely exist in each area of operation. This is especially true in consortiums, where large geographical areas will be covered and many products/services provided.

The consortium development committee must gather as much information about competitors as possible. An examination of competition greatly enhances the knowledge possessed about the environment in which the consortium will operate. Competitors may focus on one aspect of a manufacturing operation to the exclusion of others or on some service delivery in generalized or specialized ways. This information may lead the committee to focus services on other aspects of the manufacturing process or to offer services in ways that either specialize or generalize.

Macro-environment

After looking at markets, customers, and competitors, the consortium development committee must apply itself to the examination of other environmental areas. The committee must identify population shifts that may effect contract referrals, market potentials that are growing or declining, changes in community political climate and the negative or positive effects that may result in new technology, the job market, and the availability of skilled production staff.

No organization operates in a vacuum. The consortium's community is constantly changing, affecting changes in the member facilities as a result. Every consortium member either benefits or falls victim to the surrounding and sustaining community.

Consortiums must plan for the changes that society will certainly force upon their member facilities. By failing to read the climate of the market in macro-environmental terms, the consortium can only hope to remain in active operation through luck. This is not to say that every correctly identified macro-environmental change will allow consortium developers to successfully plan strategies that allow the consortium to navigate those changes. However, any examination of potential macro-environmental changes will give the consortium a better chance to compete in a changed environment. The success of a consortium in any marketplace is never assured by vision or denied by lack of vision.

Profile each service and/or product

Now the consortium development committee's task is to profile each major consortium objective. To develop a profile, the committee will fully build strategies based on the marketing picture obtained from the audit above. This entails "fleshing out" the above information. A standardized marketing data collection format may be useful for completing this task. Such a tool is found in Appendix B. Using a full profile of the consortium, the committee critically examines the data, looking for specific opportunities that may provide the consortium and each of its member facilities with a marketing "edge" relative to competitors.

Products and services

Consortium services are based either on mission stated objectives or on activities that allow those stated objectives to be completed. Services that are intimately tied to the

organizational mission statements receive the highest priority for intensified marketing efforts. Other services that are part of the process but not objectives themselves receive attention in direct relationships to their contribution to the completion of facility goals.

Price

Consortium contractors must set pricing objectives and choose pricing methods to determine service compensation. Prices are affected by each contracting facility's ability to determine customer reaction to the prices set.

Primary to consortium consideration of pricing is cost recovery. For some consortiums depending on grant or other fixed revenues that carry not-for-profit stipulations, cost may be the only consideration. It is important for the consortium to consider price in order to gauge the level of service to provide. Even though facility reimbursement for consortium services may not be larger than actual costs incurred, the type and scope of the services provided will affect costs. Therefore, the consortium development committee must consider the possible responses to higher costs associated with differing types of services. For instance, the consortium may provide no client related services. The committee may attempt to determine if the added costs for fully computerized client-job matching equipment could be borne by purchasers of placement services in the form of higher fees. Pricing relies on accurate and complete accounting information to assure the organization that the needs of both customers and organization are met.

Distribution

The consortium development committee must examine the flow of contract referrals and changes that may occur if the services were provided in a different manner.

All organizations have a common gap. This is the gap between the physical location of the organization's service delivery and the physical location of the organization's customers. Bridging the gap is a distribution system. Many facilities experience transportation difficulties bringing clients to the buildings where services are provided. Alternate locations may bridge the gap more efficiently. Channels for the distribution of goods produced by the member facilities must also be examined. Distribution will be a major consideration for the consortium simply because joint ventures will increase the possibilities that products/services will be provided from a large geographical area.

Advertising

Advertising is an avenue of promotion. Product/service promotion also includes personal selling, sales promotion, public relations, and publicity. Advertising allows consortium members to communicate their ability to meet consumer desires. The consortium development committee must determine if the objectives under examination can be effectively communicated to potential customers.

Creating the strategy

Now the detailed activity of creating marketing strategies for the consortium can begin. The consortium development committee will work closely with experts in each strategy area and with the facility representatives who will implement the plans after they are drafted.

The creation of a marketing strategy is an attempt to match consortium resources (em-

bodied within member facilities) for producing goods and/or services and the consortium's ability to communicate with target markets, with the characteristics of the target market needs and competitor's position. Thus, the consortium attempts to position the member facility products and/or services against the strengths and weaknesses of consortium competitors.

To be successful, the consortium development committee must develop specific goals for itself and for each member facility's marketing campaign that can be measured relative to market share. The committee may use the techniques of brainstorming and idea generation to help "shake loose" possible strategies that will guide the chosen marketing objectives.

Formulate long range plans

The development of a marketing strategy includes facets of nearly every sector of the consortium. Details in the creation of plans to provide products and services include the areas of pricing, distribution, advertising, publicity, and sales. Some of the work of the consortium development committee has already provided documents that will direct the "fleshing out" of these areas, but a lot of details will remain.

Product planning

Product planning results from need assessment. Sales strategies should be built around customer benefits as revealed by need assessment. This means that service features are supports for customer needs and desires. The features should not be promoted alone; the customer benefit is the most salient selling argument. Services should be developed on the basis of a total product concept. This means simply that the deliverer of the services should not stop short with obvious desirable characteristics. Purchases of services are made for more than obvious reasons; the assessment of possible purchasing incentives should consider all possible need satisfactions that the potential customer may enjoy.

Early consideration of all aspects of possible purchasing incentives is wise. Marketing failure is often the result of the consortium development committee's failure to examine the desires of customers in light of their reasons for making purchases. Sub-contractors from local business and industry do not purchase services simply because the service exists, but are motivated by their need to produce products that will lead to profits. A thorough examination of local business motivations may lead the consortium to design long term promotional activities that stress the consortium member's ability to meet these profit-making desires.

Advertising

There is no question that advertising can yield benefits for the consortium. However, each member facility must use advertising strategies that are effective in carrying its own facility messages as well as the consortium's messages to desiring publics. The marketing process helps determine consortium objectives and allows advertising plans to be devised to help carry out those objectives. The consortium development committee identifies target audiences, identifies messages to be sent to the audiences, and recommends an advertising vehicle for effectively carrying messages to the audience. Vehicles, such as radio, display ads, flyers, and direct contact are important to the strategy only insofar as they are able to bridge the gap between the facility message senders and the anticipated message receivers.

After defining a target audience, the consortium development committee must prepare

an advertising delivery schedule aimed at allowing the targeted audience to experience consortium messages in desired ways.

Publicity

Consortium publicity must be aimed at image building. Remember that the consortium is "low profile." Thus, this publicity should be aimed primarily at member facilities.

Publicity is a form of message conveyance. The intent of publicity is to dispose an audience to be receptive to a message that asks for exchanges of resources. Advertising, on the other hand, asks for an immediate exchange. To be effective, publicity must be developed in concert with advertising strategy.

Public relations programs should be flexible. Flexible public relations programs reach more than one audience and can be used on more than one promotional occasion. Special events, personalized literature, direct mail, personal contact, and promotional displays can be effective and efficient public relations efforts.

Communication through public relations must be developed with an understanding of the audience needs, an understanding of consortium objectives, an understanding of facility services, an understanding of potential customers, an understanding of the message to send to the customers, and an understanding of the results the consortium wishes to achieve through the use of public relations.

The services offered by consortiums may have many intangible qualities. Therefore, promoting consortium (and member facility) services may really depend on the development of an image or a series of impressions. Public relations occurs every day. When a person walks in the facility door, an impression is made. The committee needs to gather information about present public relations images.

Public relations research should be aimed at discovering what present public image exists as public relations is an organized effort aimed at creating an image that influences potential customers to think positively about the facility and consortium.

Establish an evaluation date

Now that the consortium has been fully developed, each facility representative involved in the investigative and development process must make a formal commitment to membership in the consortium as created.

The development committee should have documented the consortium at each development stage. These documents, describing the nature and scope of the consortium, the operating procedures, the basic products and services to be offered through the consortium, the consortium's marketing plans, and the long range plans for consortium continuation, should be available to all members and potential members.

At this point, the committee may choose to allow other facilities to enter into cooperative agreements. At least, a policy regarding future affiliations should be drafted.

If at least two facilities wish to initiate the consortium, the operation may begin. The governing committee must, as its first activity, determine a date to evaluate the activities of the consortium. This will allow the consortium, and member facilities, to determine if consortium affiliation provides the promised benefits. It will also allow the consortium to make changes in the structure, marketing strategy, and/or operating policies to remain responsive to the changing environment.

Chapter Five

Helping The Consortium Grow

How are the member facilities going to know if the consortium is beneficial? The consortium must regularly evaluate the scope of the services it provides, the manner in which it provides them, the marketing approach that it employs, and its long range plans.

Evaluate the consortium operations

In most cases, consortiums will be able to evaluate impact on the basis of each member facility's total sales. Certainly facility members should be able to tell that their total sales are up. They should also be able to tell that sales are up because of contracts they obtained through the consortium structure.

Actually, it is very easy to identify contracts obtained through the consortium because the sub-contracts will be with other facilities. Local control allows the facility's accountants to track both contracts made with other facilities and sub-contracts received from other facilities. Both types of contracts are valuable.

Another possibility is for consortium staff to keep track of leads established by the consortium. The consortium organization itself will need a modest income to continue providing membership services. This income itself is a measurement parameter.

One of the initial decisions was how the consortium will support itself. Members may have to pay annual fees, or a percentage of consortium related contracts, or some other revenue generating concept. Ideally, the consortium would eventually receive a single percentage of the initial contract. Of course this percentage would become part of the contract price. Thus, the consortium could become self-sustaining.

Program evaluation answers questions

Evaluations are conducted for many reasons, but all the reasons have one thing in common: they are questions about past performance. The questions initially may be vague, such as "What does our consortium look like from an outcome point of view?" or "Is the consortium helping member facilities meet their goals?"

Three types of evaluations can be conducted to help consortiums analyze their operations. They are: formative evaluations, summative evaluations, and needs assessment. In addition, many different models of program evaluation can be employed. The models are variations of two program evaluation approaches: the objective attainment approach, and the systems analysis approach.

In all cases, data to support an evaluation is obtained from research. The investigative research that is conducted utilizes one of three broad tactics: experimental research, correlational research, and case studies.

Formative evaluations

Formative evaluations are developed to answer broad questions such as: "How can the consortium be improved?" or "How can it become more effective and efficient?" Thus, a formative evaluation makes use of evaluation data to further develop the consortium. These evaluations tend to be ongoing in nature. After the evaluation system is in place, data that describes the status of the consortium is continually obtained.

Formative evaluations usually require the collection of a large amount of diverse data. To improve a consortium, it is necessary to understand how well the consortium is moving toward its objectives so that changes can be made in its components. Thus, formative evaluation is time consuming.

Summative evaluations

In a summative program evaluation, the emphasis is on consortium effectiveness or outcome and the adequacy of consortium performance or quality. The evaluation task is to make "summary" judgments about the consortium and its value. This usually leads to decisions about the continued operation of the consortium.

To make judgments using a summative evaluation, it is necessary to compare the data gathered during the evaluation with another consortium aimed at achieving similar goals. If no rival consortium can be evaluated, the evaluation data could be compared with a group of facilities identical to the consortium members who did not participate in the consortium.

Summative evaluations are usually "one shot" efforts mounted to answer questions such as: "Is the volume of production contracts within member facilities increasing?" or "Can we attribute the increase of production contracts within member facility `B' to consortium activities?" Summative evaluations may also be called outcome evaluations, consumer testing, or evaluation research.

Needs assessment

Questions such as: "What should the consortium try to accomplish?" or "What areas of the consortium marketing plan should be changed?" are really questions regarding the discovery of weaknesses or problem areas in the consortium. These questions are best investigated by a needs assessment rather than a formative or summative program evaluation because the resulting report is used for long term planning rather than immediate change.

Objective evaluations

Many organizations routinely use the objective or goal attainment approach to determine if their activities are successful. This approach may be used for the evaluation of consortiums as well. Using the objective attainment approach, consortium investigators ask if the consortium has accomplished what it was designed to accomplish in terms of increased production for member facilities.

The logic behind the approach is sound; the consortium is evaluated on the basis of

meeting predetermined objectives. In practice, however, the application of the goal attainment approach is not as cut and dried. It is important to emphasize that an evaluation based on an attainment approach will not be able to clearly state that the consortium alone is responsible for the attainment of the member's individual production goals.

Systems analysis

The systems analysis approach focuses on the analysis of consortium processes to arrive at a judgment of its value. The effectiveness of a consortium, thus, is not determined only in relationship to stated goals, but also in terms of its contribution to the functional operation of the member facilities.

The systems analysis approach to program evaluation relies on the gathering of very large amounts of data. Thus, the popularity of the approach has grown with the proliferation of personal computers and the trend toward gathering large amounts of data for "accountability" purposes.

Data accumulated for evaluating consortiums using the systems analysis approach are useful, in sophisticated consortiums, for the projection of outcomes under varying conditions. Thus, systems analysis allows the evaluation to be predictive, providing a valuable planning tool to consortium administrators.

Planning for evaluation

"Stake holders" are individuals or organizational groups that have an interest in the outcome of an evaluation. Because the type of evaluation desired, the approach chosen, the model selected, the questions asked, the objectives measured, the comparison criteria selected, the research design used, and virtually every other facet of the evaluation design will require judgments that will affect the results obtained by the evaluation, all stake holders need to be provided with input into the planning and implementation of a program evaluation. If, in fact, they are denied a voice, they may discount, disbelieve, or ignore the results obtained. Thus, all member facilities that will be affected by the evaluation of the consortium should be included in the initial question formulation stage.

Examine the consortium's objectives

Objectives are often used as the statements tested by evaluation research. Evaluations need to discriminate among several different types of objectives. They include: process objectives, outcome objectives, and management objectives.

Objectives are specific statements of the results a consortium intends to achieve. They are the statements from which measures are derived, thus they must be stated in terms of the ultimate results or outcomes which the consortium should achieve as a result of the services provided. Objectives must reflect both effectiveness and efficiency measures. Effectiveness measures tell evaluators how successful the provision of services has been.

Determine the measurement level

Measures are best stated in terms of real numbers, averages, percentages, time, or money. They should clearly reflect the method you will use to describe the provision of services that meet your objective. There should be no gray areas. The objective either fits the criteria for measurement or does not fit the criteria for measurement. This gives stake holders solid

grounds for agreement on the actual amount of services that have been measured. Cook and Cooper (1978) state that measurement is the process of converting evaluation information into data that can be objectively interpreted.

Measurement can occur on four different levels. Assumptions for each level allow successively more accurate analysis methods to be used to interpret evaluation findings. These measurement levels are: nominal scale, ordinal scale, interval scale, and ratio scale.

Nominal

Nominal scales are the simplest. They are classifications (groupings) of people, things, or other units. Even when numbers are used to represent different classifications, relationships do not exist between the separate classifications. Thus, no numerical analysis of the numbers can be made. For example, a nominal scale may be used to class contracts as 1) wood products, 2) light assembly, 3) packaging, 4) janitorial services, 5) other. If all contracts were assigned these nominal numbers, determining an average or any other statistic using the 1 - 5 scale would give no meaningful data. Additionally, nominal scales do not have zero points.

Ordinal

Ordinal scales improve the nominal scale. They can be used when some degree of relationship exists between units. Ordinal scales are often used to describe subjective data. For example, if we asked businesses how satisfied they were with the production services they purchased, we may classify their answers on a scale of 1 to 5 with very satisfied being one and very unsatisfied being five. However, the amount of satisfaction between 1 and 2 is not necessarily the same as between 3 and 4. Thus, conclusions drawn from such data need to be carefully considered. Additionally, ordinal scales may or may not have a zero point.

Interval

Like ordinal scales, interval scales assume a direct relationship between scale units. Unlike the ordinal scale, interval scale units are equally separated. The amount of change from 1 to 2 must be equal to the amount of change from 4 to 5 and for any other full unit within the scale. Additionally, interval scales do not have a zero point. For example, IQ tests use interval scales and do not have zero points. To have zero IQ is to be unable to take the test (dead). Much of the objective data obtained for program evaluation can be placed on an interval scale.

Ratio

The highest level of measurement is the ratio scale. Like the interval scale, intervals between units have a direct and proportional relationship between themselves, but ratio scales always have a zero point. Thus, the data that is collected using a ratio scale must be capable of not existing.

Determine data gathering and analysis methods

Another important area to consider when choosing measures for evaluation goals and objectives is the data gathering tactics and the analysis techniques that will be employed

after data is gathered. Consortium investigators can employ the tactics of experimental research, correlational research, and case study to gather their evaluation data. And they can employ a wide variety of analysis techniques including multiple regression, chi-square, systems analysis, hypothesis testing, and sign tests to determine the meaning of the gathered data. All these tactics and techniques influence your data gathering techniques.

Set time of measurement

Time of measurement is the point in time when outcome information is collected. It is important that the time of measure be made in relationship to the consortium flow and the objectives to be measured. You must be sure that the time of measurement is clearly specified to ensure that the consortium activities truly impact on the outcome.

The collection of evaluation data

Evaluations of all types rely on the comparison of factual data to arrive at conclusions. They, therefore, can use the scientific method to assure that conclusions can stand public inspection.

The scientific method is the systematic collection of factual data by objective observations to answer measurable questions. The difference between program evaluation research and traditional scientific research is that evaluation research must be used for decision making to justify expenditures of time and energy. Traditional scientific research may be performed for purely esoteric reasons.

Research tactics

Consortium researchers may use three tactics to implement the scientific method. They are: experimental research, correlational research, and case studies. Brief descriptions of these tactics are provided below.

Experimental research

Experimental research is the gathering of factual data to prove or disprove a hypothesis. The hypothesis is a tentative solution to the evaluation question. For example, if a consortium is evaluated to determine its effectiveness at providing an increased volume of production contracts to member facilities, relative to facilities who do not belong to the consortium, the hypothesis may be stated: Members of the Indianhead Consortium receive 20% more subcontracting opportunities than facilities in Northwest Wisconsin who do not belong to the consortium.

To investigate this hypothesis using a scientific approach, it is necessary to randomly choose facilities to be evaluated using a random sampling technique that allows all examined facilities to be equally likely to be non-members or members of the consortium. This random selection helps reduce possible reasons for one group to have an increased amount of production.

It is also necessary to choose a measure of production that will demonstrate that increases or decreases have occurred. The measure must be quantifiable to allow data collection to proceed. In the language of researchers, the measurement is called the dependent variable because the data gathered will be dependent on the program from which it is gathered. Each facility is called an independent variable.

Correlational research

Correlational researchers attempt to find associations or relationships between program components, other programs, and operating environments. This type of research does not provide any implication of cause. That is, a correlational study does not establish a hypothesis against which the data from dependent and independent variables are compared.

Case Studies

The case study is probably the most widely accepted data gathering tactic used by program evaluators in rehabilitation settings. In the case study tactic, existing data files on the consortium activities are examined to generate the data for use in making scientific comparisons. This tactic has many data gathering flaws that cause problems of interpretation for evaluators. The data are easily "contaminated" rendering any finding suspect. However, especially when ongoing collection systems are in place, this approach may be the least costly of the research tactics.

Procedures to insure accuracy

For consortium investigators to accurately interpret the data that are obtained using any of the above tactics, procedures must be developed to insure that the data that are collected include all possible variables, and/or identify single variables with precision.

The collection of all available data points is not necessarily the most accurate method, though the proponents of the ongoing collection of data often cite accuracy and completeness as a reason for the expenditure of time and effort. In fact, the global gathering of data for use in the evaluation of a consortium may not only be a waste of data collection resources, it may actually be less accurate than representative sampling. This is true because more people are involved in global data collection, leading to a greater possibility for contaminated (inaccurately recorded) data.

Statistical sampling

To insure that data samples are representative of the total data pool that is to be measured, samples must be randomly chosen to give each pool unit an equal chance of being chosen.

Random samples that accurately reflect the population that they represent, have three advantages over the collection of data from the population total:

1. They provide real time and resource saving with little loss of accuracy because data is less likely to become contaminated.
2. They can produce more timely results because the time of sampling can be quickly determined and the data quickly collected.
3. They give program administrators more flexibility in the evaluation questions they ask because of their increased dollar and hour efficiency.

Using a random number table is one of the easiest methods of selecting a random sample. All population units are first assigned a sequential number. Then, the evaluator chooses any point on the table to begin listing numbers. If the population contains less than 100 units, only two digit numbers are chosen; if less than 1000 units, only three digit numbers, etc.

Any number that is greater than the population total is discarded. Numbers continue to be selected by reading down or across the table until the total needed for a representative sample has been reached. Then the randomly selected numbers are matched to the corresponding numbers assigned sequentially to each population unit.

Some statistical software programs are designed to produce random numbers. This may be the quickest way to match a randomly selected number to a popu!ation unit. Sequential numbers are assigned to population units. The computer selects the representative sample, and the randomly selected numbers are matched to the corresponding number assigned sequentially to each population unit.

If only small samples are needed, it may be feasible to draw numbers out of a hat or some other equally folksy container to obtain a random sample. The trick is to insure that all units are equally represented and that each unit has the same chance of being chosen as part of the sample as all other units.

Another key to insuring that samples are representative is to accurately determine the number of units that must be included in the sample. Two processes for estimating the most accurate sample size are used. One is principally employed when the program evaluation question can be phrased such that the measurement obtained through the data gathering process will result in a population proportion figure. The other process is employed when the data gathering process results in a mean (average) figure.

Frequency distribution

The conversion of raw scores to group centered scores is a standardization process that allows data to be more easily compared with other groups. Several standardization methods will result in the expression of data in the form of a frequency distribution. They include: percentile ranking, histograms, and frequency polygons. Frequency distributions are representations of data based on their relative numerical groupings.

One of the most common ways used to represent individual scores in relation to groups is to indicate the percentile ranking of the score. Percentile ranks are sometimes converted into cumulative rankings to indicate the actual location of a score within a large mass of data points.

Histograms are similar to percentile rankings because they also rank data from lowest to highest. However, histograms visually place the data into five to fifteen "ranges" allowing multiple individual scores to be more easily assessed. Each data range must be equal to all other data ranges. The size of each range is determined by the number of ranges and the size of the population. Building a histogram from the rankings, we create a visual representation of the data that will allow us to clearly see the variance within the program.

Another method of raw score standardization is the computation of a standard score. Several methods are used. As in the process used for frequency distribution, one method is the percentile rank which we have already discussed. A percentile ranking method, the use of cumulative percentiles, is especially useful in the development of standard scores. Standard scores using the above methods convert each raw score into a score that can be related to other scores in the same group.

The computation of a derived score is yet another method for determining a standard score. A derived score differs from a group centered standard score in that it provides standardization that allows comparisons between studies. Two easily computed standard scores are in common use: the Z score and the T score.

The Z score transformation converts a raw score into a score that reflects the raw score's relationship to the group norm. This relationship is expressed as a figure that indicates how many standard deviations the raw score is from the group's mean. Thus, deviation from the mean can be compared for scores from any group.

Because deviation from the mean can be positive or negative, Z scores can also be positive or negative. In addition, it is rare to find score deviations that greatly exceed three standard deviations from the mean, therefore, Z scores usually range from -3.0 to 3.0 with 0.00 indicating the mean.

Based on the Z score, the process for determining a T score is designed to eliminate both decimals and negative numbers. After a Z score has been determined, it is multiplied by 10. To the resulting product is then added 50. This creates a standard score distribution from about 20 to about 80 with 50 as the mean.

Evaluation research

Some consortium evaluation questions will require the use of traditional research designs to interpret the collected data and provide answers. It may not be sufficient to simply know what happened and outcome data can only provide that information.

Of paramount concern for any consortium administrator is the need to tie the production outcomes of members, easily measured by ongoing data, to consortium activities. For example, if a member facility's production volume increases, can we, in fact, attribute this increase to the activities of the consortium? It may be possible to use existing outcome data with traditional research design to show that the increase can be attributed to membership in the consortium.

Traditional research design

Traditional design relies on several levels of experimental research methods that incorporate the above research tactics. The evaluator must choose the level of design that best balances the need for valid data with the data collecting capabilities. Three traditional designs are usually cited. They exist not as discrete entities, but as levels on a continuum. These designs are pre-experimental, quasi-experimental, and true experimental designs.

Pre-experimental models can simply be called outcome or descriptive evaluations because the intent is only to describe a program not to infer correlation or causation. The quasi-experimental and true experimental models, however, try to establish correlations and infer causation between the variables under study. They vary only in their ability to control the variables with the true experimental model providing as close to full control over variables as possible.

Quasi-experimental models

Many different quasi-experimental models can be created to meet the needs of various consortium data collection problems and evaluation questions. Three types are in common use. They are the single group pre/post test model, the nonequivalent control group pre/post test model, and the interrupted time series testing model.

Single group pre/post test

As the name implies, this research design is used when no control group is possible.

Depending upon the type of information desired, the single group of consortium members is first "tested" (data collected in some form) prior to affiliation with the consortium. After affiliation an identical "testing" (or data collection methodology) is applied to the group. Inferences are then based upon a comparison of the data from each testing. Note that the pre/post test may be an actual test, for example a skill test or productivity test, or it may simply be the collection of descriptive data. The type of data collected is not important. That the same data is collected at both points is important.

Nonequivalent control group pre/post test

Just as in the single group pre/post test model, the nonequivalent control group model requires data collection at two points, before training and after training. In this model, however, another group is added as a "control." The control group is "tested" as if it were to affiliate with the consortium and then "tested" again as if it had affiliated with the consortium. However, the group did not affiliate. Thus, such data as the mean increase (or decrease) in test scores between the two groups can be compared. This provides yet another indication that affiliation with the consortium was beneficial (or unbeneficial).

While more powerful than the single group model, the nonequivalent group is still vulnerable to bias on the basis of the way the groups are selected.

Interrupted time series

Single or multiple groups can be exposed to the interrupted time series model. In this model, a group(s) is tested several times before and after affiliation with the consortium. By giving several pre and post "tests" and plotting the results, a linear relationship between the "testing" times can be established. The shape of the line helps the evaluator determine if increases (or decreases) can be attributed to consortium affiliation or some other factor.

Data Analysis Techniques

In every program evaluation situation, data, either outcome or situationally related, must be analyzed, allowing administrators to make inferences about the value of the program under examination. Because the data is most often numerically expressed (the alternative would be an evaluation that reports that a product was created or delivered), the analysis is usually of a statistical nature. The easiest way to express the answers to program evaluation questions is to statistically test the truth or falsity of a statement related to the question. This is called hypothesis testing.

Techniques

Many different types of analytic techniques can be used to examine consortium evaluation data. Many require statistical computer programs and sophisticated knowledge of data manipulation procedures. Others, however, can be simply performed using hand calculators. Three of the simple techniques, sign tests, simple linear regression, and chi-square, are described below.

Sign tests

This is probably the simplest test to use when determining if post-test ratings tend to be greater than pre-test ratings. Thus, for use with program evaluation data, the sign test will

quickly help an evaluator determine positive or negative tendencies. The sign test will not tell the evaluator how great a change occurs but will indicate that change has occurred. Evaluators need only a table of critical values to determine a significance level for their findings.

First, the data from each case is listed together with pre-test and post-test ratings. Second, the evaluator determines if the post-test rating is greater or less than the pre-test rating and assigns each case a plus (+) or a minus (-). The number of plus ratings are counted. Third, the evaluator also notes the number of ties and subtracts the ties from the total number of cases. Fourth, the evaluator determines the level of significance that is needed to accurately test the hypothesis. Fifth, using both the adjusted total number of cases and the desired level of significance, the evaluator consults a mathematical table of critical values for sign tests. Finally, comparing the critical value found in the table with the number of plus ratings, the evaluator decides whether to accept or reject the null hypothesis.

Linear regression

Some data may lend themselves to analysis by trend line forecasting. This is particularly helpful when making predictions about production volumes, but can also be used to illustrate consortium and/or member facility directional change. In fact, change rate may also be of interest to consortium developers.

One of the easiest and most common linear regression techniques is the "least squares" forecasting method. This method is relatively simple in its use of mathematics and provides good trend line information. The method used is a statistical manipulation of data points. All of the squares (a number multiplied by itself) of these data points are added and reformulated mathematically. The resulting new data can be plotted to illustrate the differences between the statistically determined figures and the actual data. This graphic representation of the trend line data represents the least amount of difference between those data points above the line and those below the line. The line, therefore, can be used to predict, with reasonable accuracy, data for points in the near future.

The linear regression forecasting method employed by the least squares method cannot separate cyclical or seasonal effects on the points plotted on the demand graph. Thus, the data must be "deseasonalized" to give an accurate forecast of trends. (Some program evaluation data points may not be affected by seasonal or cyclic trends. Deseasonalization may not be necessary in that case or in the case of data that is stated in yearly terms.)

The following steps are used for creating data to use in least squares forecasting:

1. Obtain enough historical data to support a regression analysis. If forecasts are to be made with the trend line, twelve data periods (usually months) are usually enough to forecast up to twelve more periods of future data. More data points provide a better forecast. Less can be used, but the results may not be reliable.
2. Insure that the time increments within the data are incremental. That is, each period of time that the data represents should be equal to all the other periods. If you are gathering daily work data, remember that the number of work days in a month will vary. Thus, if the daily data is reflected in a monthly figure, you must adjust the periods to reflect the number of days that are actually worked.
3. Adjust the periods to a common point in time if units may change over time (such as dollars earned). Inflation can give a false picture within a forecast. To guard against bias, relate all periods to a common year.

4. Deseasonalize the data. Because some data figures may be used on a basis that fluctuates seasonally, the data needs to be adjusted to account for these fluctuations if an accurate forecast is to be made.
5. Plot the adjusted data on a time vs. quantity graph.
6. Using the seasonally adjusted data and the least squares regression formulas, determine the trend line existing for the plotted data.
7. Examine the trend line to make predictions about future data.

Chi-square tests

The task of a program evaluation may be to determine relationships between different classes of variables. Two primary variations are normally found. In the simplest variation, the data may be represented by a 2 x 2 grid. In more complex situations the grid may contain many cells.

A common relationship that is explored for a consortium is the relationship between membership and increased production contracts. A simple chi-square grid for analyzing such a relationship may look like:

Increased production contracts

Consortium membership	YES	NO
YES	A	B
NO	C	D

A more complex program evaluation question may lead to a more elaborate grid structure. For example, we may wish to show that a of our consortium member work sites received contract referrals in equal proportion throughout the year. The chi-square grid for analyzing such a complex relationship may look like:

Facility

Work Station	ARC	CADOT	DEWITT	JVS	GOODWILL
SEWING					
WOOD PRODUCTS					
PACKAGING					

Formalize the consortium structure

How will the organizers help assure that the consortium will have the necessary structure to continue?

The glue that will hold the consortium together is the benefits that the member organizations receive from their involvement. The receipt of benefits is critical. In most organizations staff are very busy. The organizations will not continue to support through either dollars or time activities that do not provide benefits or relate to their mission goals.

Thus, continuity is pretty much dependent upon perceived and obtained benefits. However, operating structures can also help the consortium survive.

First, the consortium's operating body should meet regularly to assure smooth operation. The frequency of these meetings will depend upon the consortium's volume of activity. Once a month is probably the maximum, twice per year probably the minimum that the operating body should meet.

Second, the operating body, as part of regular meetings, should evaluate the benefits that member facilities receive and formulate plans to increase (or at least maintain) these benefits. At least once per year the entire structure and benefit package should be evaluated and operating modification made.

Third, the operating body should continue to operate as a separate body selling services to the facility on a fee for service basis. The operating body may wish to seek formal incorporation as a not-for-profit organization.

Fourth, the consortium must provide and be responsive to a system of grievance/complaints. This gives member facilities a forum to air any problems that may arise in their interaction with either the consortium body or other member facilities. This element is essential to the maintenance of quality control.

Finally, the consortium should have a grievance and/or complaint procedure to help police the consortium and member facility interaction. This policy statement should include a way for facilities to affiliate with the consortium, a way for member facilities to discontinue membership, and ways for disagreements between members to be resolved.

Appendix A

References and Resources

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Appendix B

Consortium Marketing Aids

PRODUCT/SERVICE MARKETING PROFILE

A. HOW DOES THIS PRODUCT/SERVICE RELATE TO THE BUSINESS THAT THE CONSORTIUM WILL PROVIDE?

Ask questions like: What will this product/service do for consortium customers? Why? When? Where? How? What doesn't it do? What should it do later but doesn't now? These questions can lead to the ultimate conclusion of what business the consortium is in and possibly direct you to new lines of products or enterprises.

B. WHAT OTHER PRODUCTS/SERVICES OF MEMBER FACILITIES ARE RELATED TO THIS LINE?

	Product/service	SIC No.
1.		
2.		
3.		
4.		
5.		

C. DEMAND

How do buyers currently go about buying these products/services? Consider the number of sources generally considered, the degree of overt information seeking, sources of product information and current awareness and knowledge levels, and who makes purchasing decisions.

D. MARKET AREA

Where and to whom will consortium members sell these products/services? Describe the market area the consortium will serve in terms of geography and customer profile:

E. MARKET TRENDS

What is the sales trend in your market area for this product/service? What do you expect it to be in five years? You should indicate the source of your data and the basis of your projections.* Industry and product statistics are usually indicated in dollars. Units, such as numbers of customers, numbers of items sold, etc. may be used, but also relate your sales to dollars.

	Product	Source of Data	Aged 5 Years	Current Sales	% Dif 5 yr	Projected in Future
1.						
2.						
3.						
4.						
5.						
6.						
7.						

*This is a marketing research problem. It will require some digging in order to come up with a market projection. Trade associations will probably be your most helpful source of information. The Bureau of Census publishes a great deal of useful statistics. There are also the following free SBA publications to help you get started: *Using Census Data in Small Plant Marketing, Profile your Customers to Expand Industrial Sales, Marketing Research Procedures, and National Directories for Use in Marketing.*

List the names and addresses of trade associations that serve member facilities.

List the names and addresses of other organizations, governmental agencies, industry associations, etc., from which the consortium intends to obtain management, technical, economic, or other types of information and assistance.

F. COMPETITION

1. Who will be consortium competitors?

List the competitors operating in the proposed product/service market areas, estimate their percentage of market penetration and dollar sales in that market, and estimate their potential loss of sales as a result of your entry into the market

Competitor	Market Share	Estimated Sales	Sales Lost ToYou

2. How does the consortium rate its competition?
Try to find out the strengths and weaknesses of each of these principal competitors. Write your opinion of each, including principal products, facilities, marketing characteristics, and new product development of adaptability to changing market conditions.

Competitor	Strengths	Weaknesses

	Competitor A weak/ave./strong			Competitor B weak/ave./strong			Competitor C weak/ave./strong		
Products									
Facilities									
Finances									
Marketing Character									
Market Adaptability									
Product/service Delivery Skills									

Have any consortium competitors recently closed operations or have they withdrawn from your market areas? Give reasons for withdrawal.

3. Advantages over competitors.

On what basis will you be able to capture your projected share of the market? On the following page is a list of characteristics which may indicate the advantages your products enjoy over those offered by competitors. Indicate those advantages by placing a check in the proper space. If there is more than one competitor, you should use more than one checklist.

Analyze each characteristic. For example, a higher price may not be a disadvantage if the product is of higher quality than your competitor's. You may want to make a more detailed analysis than is presented here. If you wish to spell out the specifics of each characteristic and explain where your product is disadvantaged and how this will be overcome, attach it to this worksheet. Also, the unique characteristics of your product can be the basis for advertising and sales promotion. Remember, the more extensive your planning, the more your business plan will help you.

CHARACTERISTICS	PRODUCTS ONE	TWO	THREE	FOUR
Price				
Performance				
Durability				
Versatility				
Speed or accuracy				
Ease of operation				
Ease of maintenance				
Record of repair				
Ease & cost to install				
Size or weight				
Styling				
Other characteristics				

What, if anything, is unique about your product?

4. What are the anticipated reactions and/or retaliatory moves of competitors?

G. CONSORTIUM RESOURCES

1. Facility Operations

List the basic operations, for example, cut and sew, machine and assemble, etc. which are needed to provide member products or services.

2. Labor Skills

List the labor skills needed for this product/service.

Skill Classification	Number Needed	Rate of Pay	Number Available

List the indirect labor, for example, material handlers, stockmen, janitors, and so on, that are needed to keep the program operating.

Skill Classification	Number Needed	Rate of Pay	Number Available

If persons with these skills are not already on your payroll, where will you get them?

3. Space

How much space will you need for this operation? Include rest rooms, storage space for raw material and for finished products, and parking facilities if appropriate. Are there any local ordinances you must comply with?

Do you own this space?

Will you buy this space?

Will you lease this space?

How much will it cost?

4. Raw Materials

What raw materials or components will you need, and where will you get them?

Material/parts	Price	Source	Comments

What amount of raw materials and/or components will you need to stock?

Are there any special considerations concerning the storage requirements of your raw materials? For example, will you use chemicals which can be stored only for a short time before they lose their potency?

5. Equipment

List the equipment needed to perform the operations. Indicate whether you will rent or buy the equipment and the anticipated cost.

Equipment	Cost	Rent	Purchase

6. Overhead

List the overhead items which will be needed in addition to indirect labor and include their cost. Examples are: tools, supplies, utilities, office help, telephone, payroll taxes, holidays, vacations, and salaries for your key personnel (sales manager, plant manager, supervisor, etc.)

H. DISTRIBUTION

1. How will the consortium get member products to the consumer? Will you retail them through member facility sales organizations or indirectly through middlemen, such as manufacturer's agents, brokers, wholesalers, and so on?

2. What will this method of distribution cost you?

3. Do you plan to use special marketing, sales, or merchandising techniques?

4. List current customers by name, the total dollar amount they buy from you, and the amount they spend for each of your products.

Customer	% of Sales	Product	Volume

5. List targeted customers in the same manner.

Customer	% of Sales	Product	Volume

OBJECTIVE OPPORTUNITIES AND PROBLEMS PROFILE

A. OPPORTUNITIES
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

B. PROBLEMS
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

C. GENERAL ANALYSIS OF RISK

MARKETING STRATEGY PROFILE

A. MARKETING OBJECTIVES

1. Target Markets

_____

_____

_____

_____

_____

_____

_____

2. Share of the Market

What percentage of the total sales in your market area do you expect to obtain for consortium products after it is in place?

Products	Percent of Local Market	Percent of Total Market

3. Sales Volume

First Year		
Units		
Second Year		
Units		
Third Year		
Units		
Fourth Year		
Units		
Fifth Year		
Units		

4. Profit Analysis

   Using a Revenue Expense Worksheet determine:

   a. Break-even point
   b. Contribution margin
   c. First year profit
   d. Return on investment

B. MARKETING DECISIONS

1. Products/Services to be offered:

   a. Current

   b. Modified

   c. New

2. Products/Services to be dropped.

3. Distribution methods.
   a. Retail sales.

   b. Wholesale.

   c. Number of outlets to be used

   d. Projected locations of outlets.

   e. Promotion.

      1e. Advertising.

      2e. Personal selling.

3e. Consumer promotion.

4e. Shows and exhibitions

5e. Competitive bidding.

6e. Branding/Packaging

7e. Basic message.

8e. Media.

4. Price Decisions

a. Required Margin.

Products	Break-even Point	Required Margin

b. Price Levels.

Products	Cost per Unit	Required Price

c. Price variations or discounts.

Products	Required Price	Variation or Discount